# Backwoods Survival Guide®

PRACTICAL ADVICE FOR THE SIMPLE LIFE

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SELF-RELIANCE SKILLS

WILDERNESS NECESSITIES

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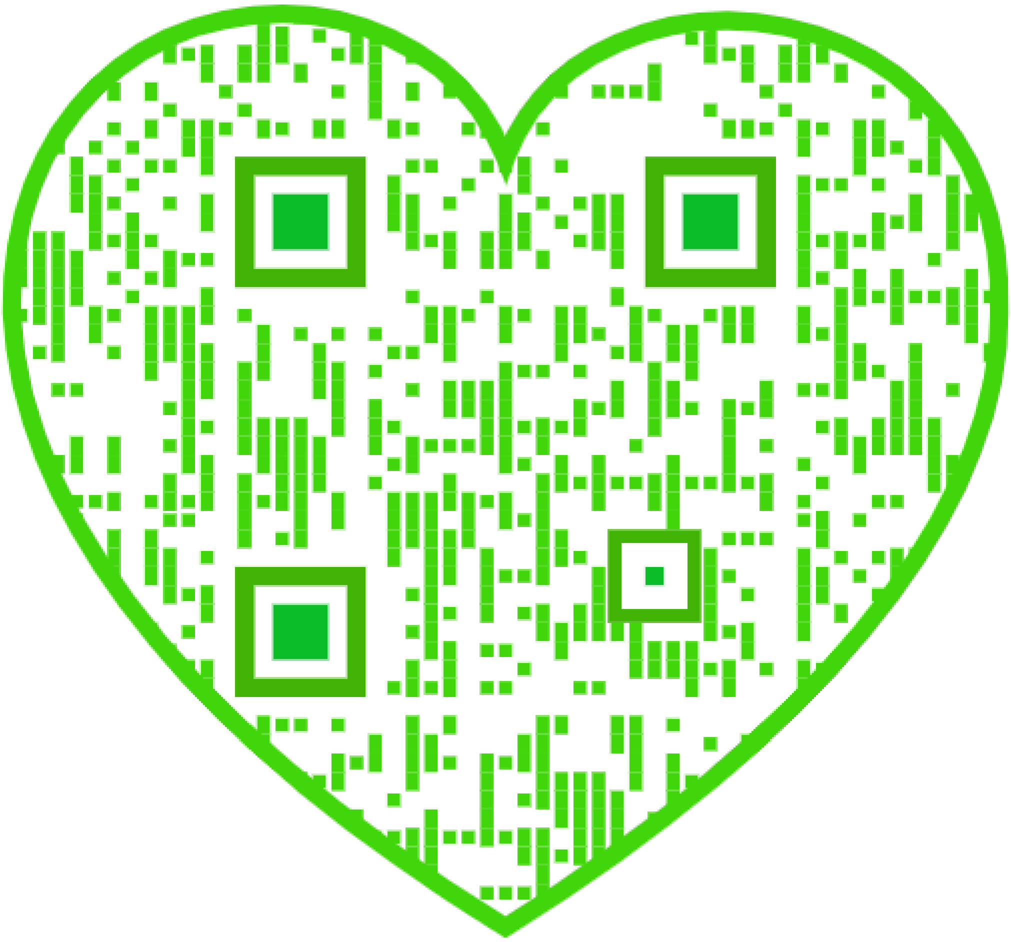


# Backwoods Survival Guide®

PRACTICAL ADVICE FOR THE SIMPLE LIFE

# CONTENTS

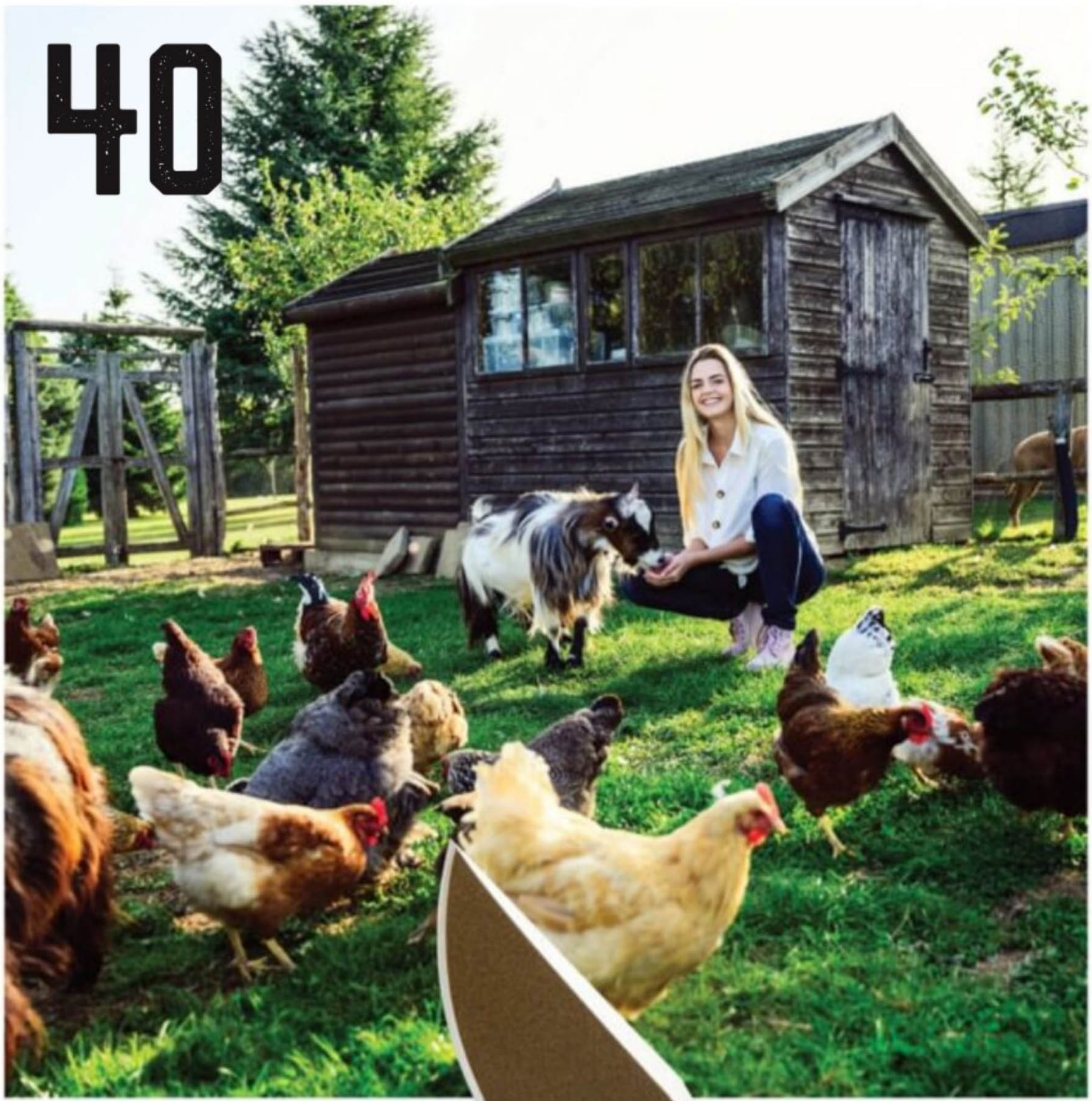
## OUTDOORS

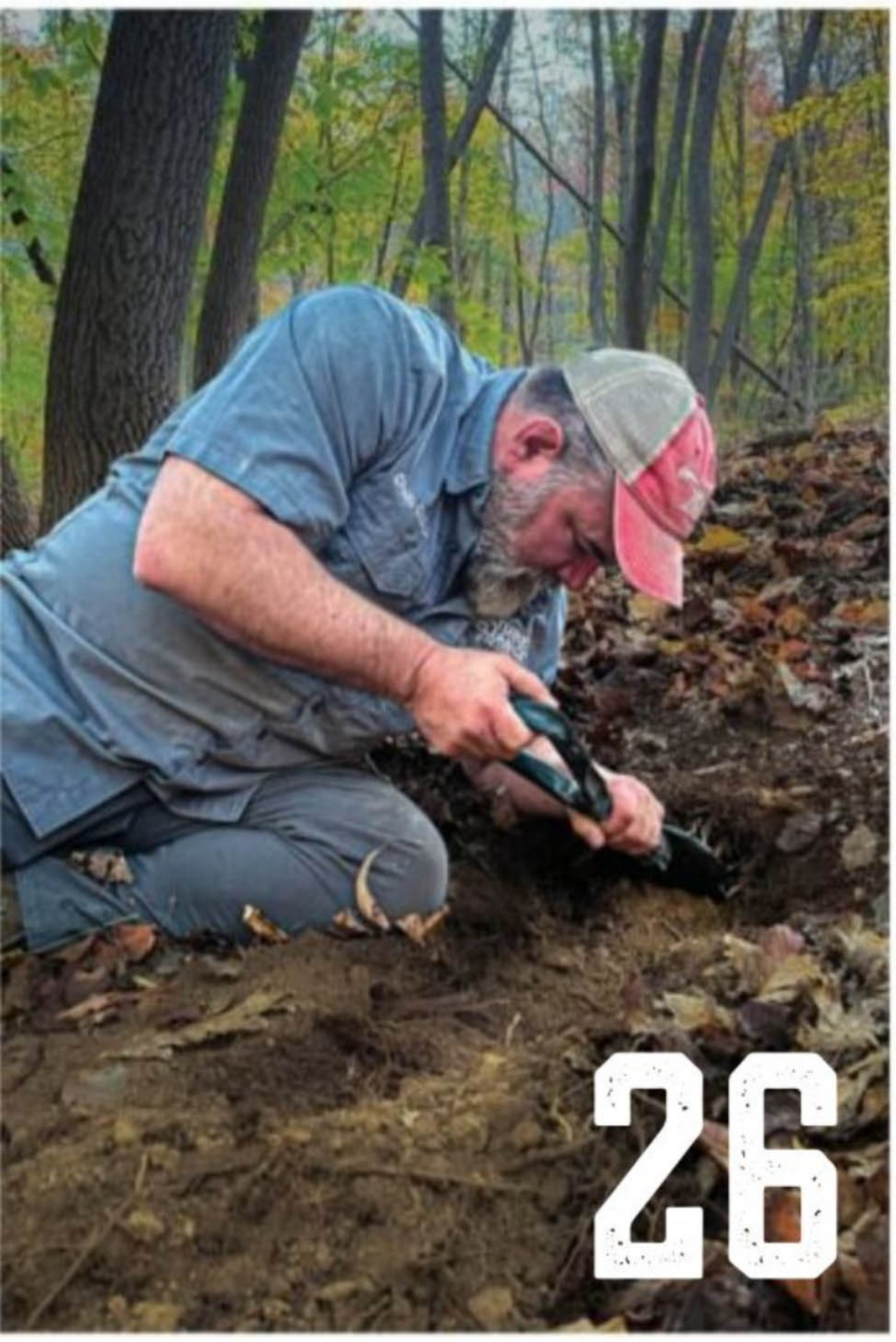
**8 Be Smart and Plan Ahead**
Stay safe on hiking trips with these tips.

**14 Tarp Camping 101**
There are several ways to build a great shelter with a tarp and some cordage.

**20 Meet the Staff**
Walking sticks have many uses beyond just as aids for balance.

**26 The Dakota Fire Hole**
This is a great way to stay warm and cook food while conserving resources in the field.



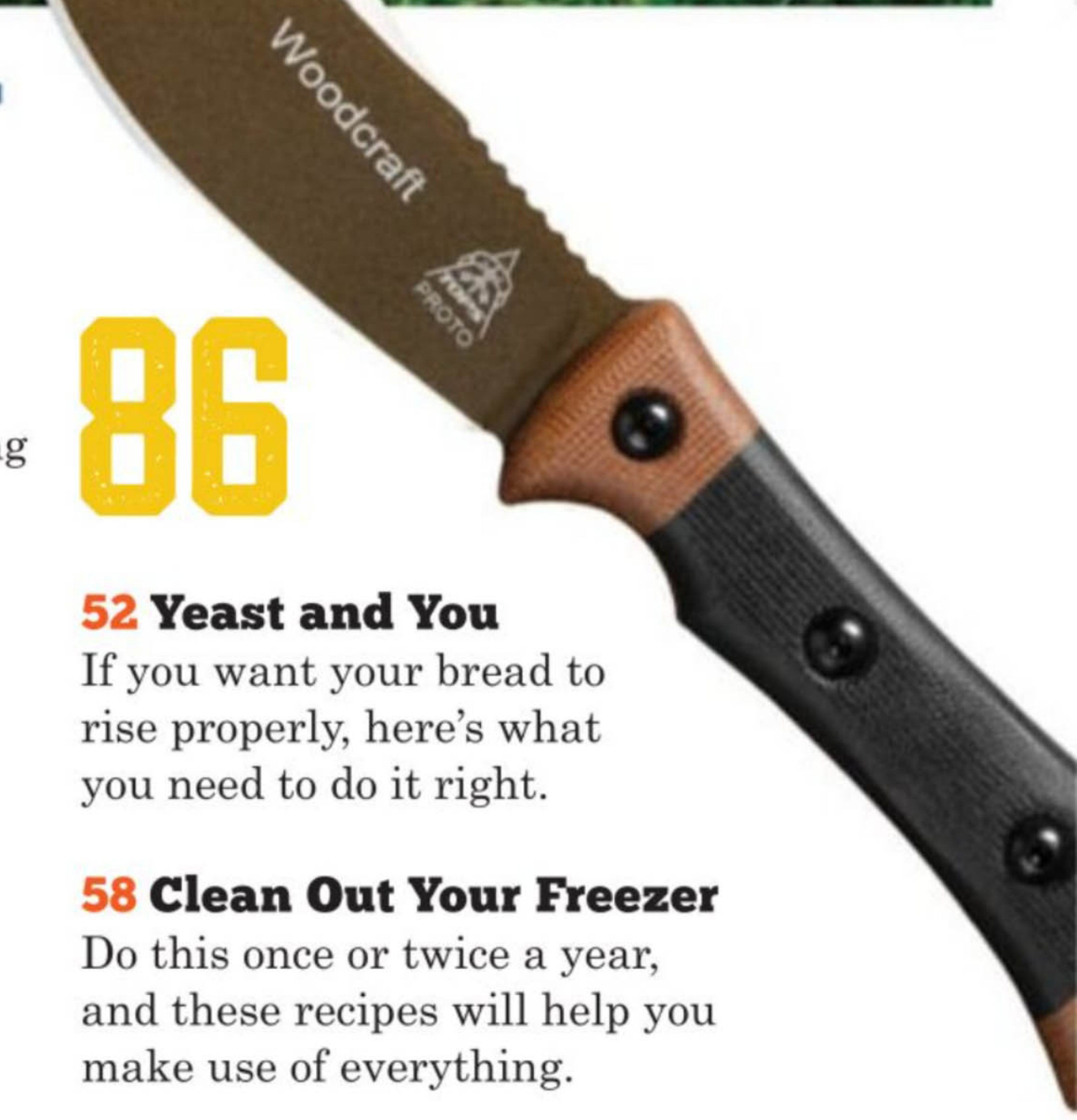


## HOMESTEADING

**34 Homesteading on a Budget**
Save money while you're working toward your self-reliance goals.

**40 Summer Chores**
Don't forget about completing these essential projects and to-dos.

**46 Chicken Alternatives**
Think beyond the ordinary flock and consider geese, ducks, quail and more.



**52 Yeast and You**
If you want your bread to rise properly, here's what you need to do it right.

**58 Clean Out Your Freezer**
Do this once or twice a year, and these recipes will help you make use of everything.

## DIY PROJECTS

**66 Backyard Survival Camp**
This will help you teach skills as well as be prepared.

**72 Clean Without Chemicals**
Make your own cleansers with common ingredients.

**78 Gear Support Kit**
Maintain all of your equipment, even if you're on the road for days on end.

## GEAR AND EQUIPMENT

**86 New Products**
The latest and greatest from some of our favorite companies.

**90 Going Dark**
Be ready for times when the power blips off and the lights go out for a while.

**96 Pocket Dumps**
Three of our writers/instructors reveal what they carry with them every single day.

**102 From Spark to Flame**
Our gear guide this time around is focused on items that will help you get that fire lit in all conditions.

**108 Tuff Possum Gear**
We review several great offerings from this company, including a variety of pouches.

# Letter From the Editor

Welcome to issue No. 28! We're in our seventh year of publication, if you can believe it. That's roughly 500 or so articles that our contributors have shared with us over the years. Our writers are some of the very best in the field and I love that they've chosen *BSG* as a home for their content.

Here's some of what you'll find in this issue. Kevin Estela has a great article on how to maintain your gear while you're away from home. Reuben Bolieu is reviewing several products from one of my favorite companies, Tuff Possum Gear. Our Gear Guide this time around is on fire starters and we're also covering the venerable walking stick and its myriad uses.

K.H. Koehler has some excellent tips on where you can save money when you're homesteading, and Angeline Hawkes is covering yeast as well as how to make a variety of cleansers to use around the home. Dana Benner explains how he does a full clean-out of his freezers each year and shares a few of his favorite recipes along the way.

Welcome to the Backwoods!

**JIM COBB**

The advice given in this magazine is the opinion of the author of each article based on their personal experiences and knowledge. The right response to a disaster may not be the same in all situations. Articles are for informational purposes only. The publisher accepts no responsibility for injuries or liability arising from relying upon information contained herein. In the event of an emergency, follow the advice of first responders and trained professionals. Have a preparedness plan researched from multiple sources and avoid high-risk situations. Follow all applicable federal, state and local laws for firearm ownership, carry and usage.

## CHAPTER 1

# OUTDOORS

HEAD OUT THERE AND HAVE FUN EXPLORING ALL THAT MOTHER NATURE HAS TO OFFER.

Know where you're going, how you're getting there and how you're coming back home.

# BE SMART AND PLAN AHEAD

Stay safe with these tips

BY JIM COBB

**IT'S HARD TO BE IN A BAD MOOD WHEN YOU RE TAKING A WALK IN NATURE. DON'T GET ME WRONG: IT MIGHT BE STRENUOUS, THE TERRAIN MIGHT BE CHALLENGING AND THE WEATHER MIGHT NOT BE IDEAL.**

Still, there's just something peaceful and soul-soothing about getting out there. It doesn't need to be a multiday trek down the Pacific Crest Trail or working your way through another major trail system, either. Just an afternoon spent amid the birds and trees can be quite centering.

Before you hit the trail, though, you should take some simple precautions. They aren't difficult, but they could make a huge difference toward making sure a fun trip doesn't turn foul.

## BE HONEST WITH YOURSELF

Know your physical capabilities and limitations. Pay attention to trail ratings. Unless you're rather experienced, you might want to avoid the truly difficult trails. It's one thing to be in good physical condition; it's another to know how to safely traverse rough terrain, particularly while loaded down with a pack.

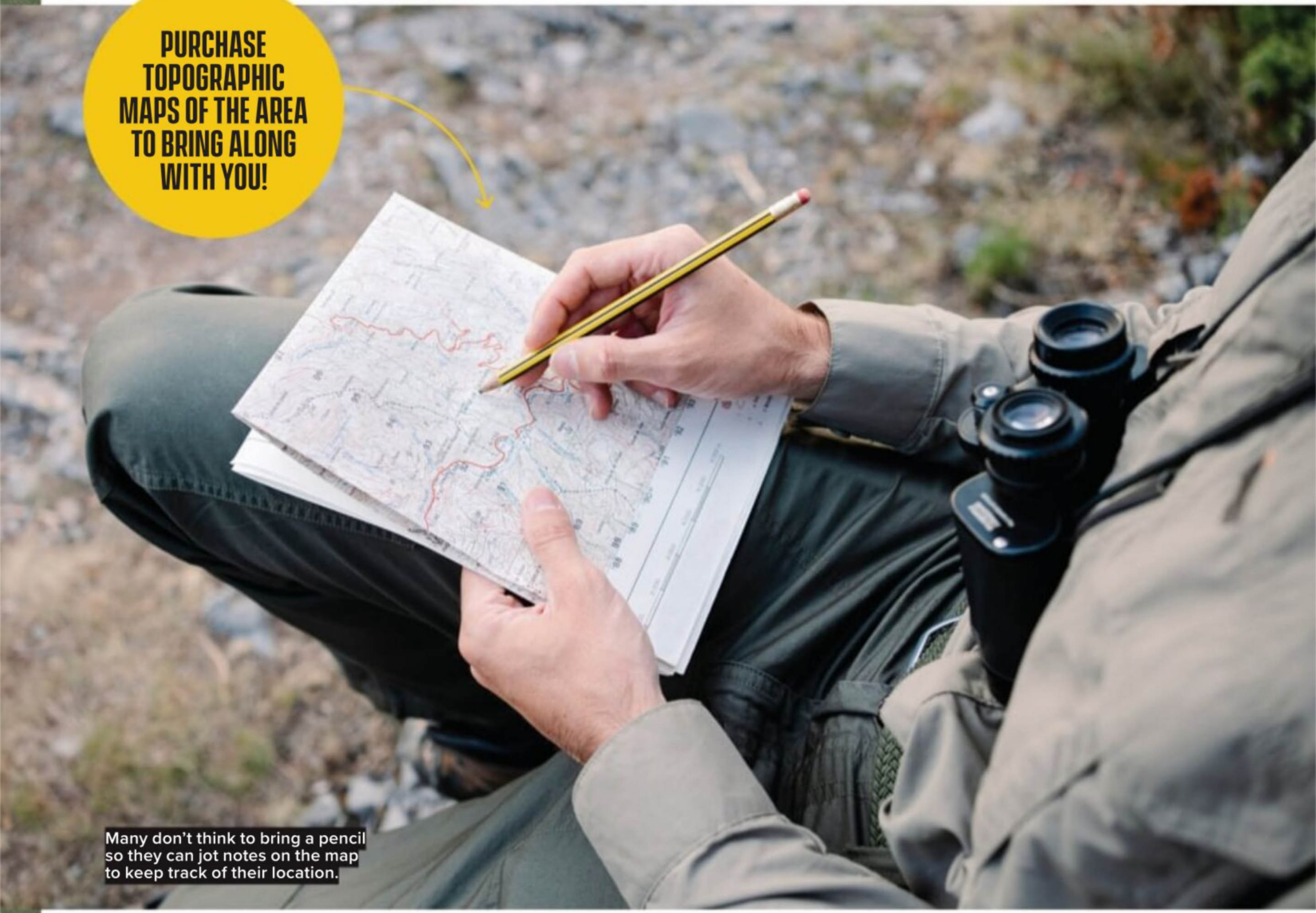
Hiking steep up-and-down trail segments is far different from walking sidewalks and paved areas. The last thing you want is to end up injured because you overestimated your abilities.

If you're going as a group, it is critical that you choose trails all members of the group will be able to handle. A little challenge isn't a bad idea, of course, but if you want everyone to enjoy the trip, you don't want to head someplace where some members of the group will be miserable.

## DO YOUR HOMEWORK

If you're heading to a new-to-you location for your trip, take some time to get to know the area before you leave.

Start with either purchasing or downloading maps. Topographic maps are best for this sort of thing, as they'll tell you the terrain and make it easier to find your way. I highly recommend



PURCHASE TOPOGRAPHIC MAPS OF THE AREA TO BRING ALONG WITH YOU!

Many don't think to bring a pencil so they can jot notes on the map to keep track of their location.

you carry hard copy maps in your pack, if nothing else than as backups for your GPS equipment. If you were to lose that satellite signal, or the gear fails in some other way, the maps will be able to get you back home.

If this is a federal-, state- or county-owned property, odds are that you'll find a ton of useful information online as well. These websites can clue you in to specific current threats, such as wildfires or flash flooding, as well as trail closures due to those threats or just routine maintenance.

Pay attention to any posted rules and regulations that you find online, such as whether campfires are allowed. Know what it and what is not allowed so that you don't run afoul of any rangers while you're onsite.

This is one of the few times that I recommend actually reading reviews, too. Previous visitors to the area may clue you in to specific hazards to be alert for, as well as sights you won't want to miss during your trip.

As your departure gets closer, pay close attention to the weather forecasts for the area, so that you can plan accordingly for clothing and outerwear. Remember, there is no bad weather, only bad clothing.

Snap a photo of the map at the trailhead and you can use it to keep track of your progress through the trail system.
Coast To COAST
TRAIL
FLORIDA
go Volusia by Trail
GEMINI SPRINGS trailhead

My wife and I go hiking at least once a week and have been doing so for the past several years. Hunting is very popular in our area, especially deer hunting. So, as the different seasons roll around, we make sure we avoid parks and other nature areas that allow hunting. I recommend you do the same, if possible.

Sure, you could wear a blaze orange hat or vest to help you stand out visually. But to my way of thinking, staying away from parks that could be filled with hunters is a courtesy to them. Let those men and women do their harvesting and fill their freezers without me mucking up the works by tramping through the area and possibly scaring game away. Plus, it's safer all around. Accidents can and do happen.

KEEP THE STAMINA AND ABILITIES OF EACH GROUP MEMBER IN MIND AS YOU PLAN YOUR TRIP, SO NOBODY IS ENTIRELY OVERWHELMED.

Proper attire, including footwear, is essential.

## SET AN ITINERARY

Always plan ahead for when you will be leaving, how long you'll be gone, and when you expect to return home. Write out an itinerary with that information as well as where you are going, the route you anticipate taking, and where you plan to camp each night you're gone. Give this to a responsible person, such as a trusted friend or loved one.

If you'll be gone several days and you anticipate having a cell signal, you might go so far as to send a text message to your contact back home each day you're gone. Nothing elaborate, just a quick note as to where you are and how things are going is fine.

If you haven't checked in by the day and time you said you'd be home, if your contact person is unable to reach you, they should get in touch with the authorities and let them know what's going on. The earlier they can be alerted to potential trouble, the better. Work out ahead of time just how much leeway your contact person should give you before making the call. What you want, though, is to be able to rely on that person to do it as scheduled, so that if you are indeed having difficulties, you know without a doubt that help will be on the way.

At the same time, hold up your end of the bargain and stick to that itinerary as best you can. There may be deviations due to weather, trail conditions, and the like, but as best you can, stick to the plan.

## PACK THE TEN ESSENTIALS

Ideally, you'll want to bring everything you'll need, but nothing you won't. Of course, that's kind of tricky and most of us end up bring at least a few things that never leave the pack.

The Ten Essentials should be with you every time you hit the trail. This is a list of gear that was first created back in the 1930s by a Seattle-based group of hikers and climbers called The Mountaineers. The idea here isn't to talk about specific gear items. This is more of a systems or group approach, where gear is discussed in general terms. A lot depends upon the anticipated duration of the trip. A short afternoon hike wouldn't require a full tent and sleep system, but an emergency blanket fits well in a pocket. The terminology varies a bit from list to list, but the intention is the same with each category.

- ✖ **Navigation** maps, compass, GPS unit
- ✖ **Illumination** headlamp, flashlight
- ✖ **Protection** sunscreen, wide-brimmed hat
- ✖ **First Aid** medical kit, including any necessary prescriptions
- ✖ **Knife** self-explanatory
- ✖ **Fire** lighter, tinder, ferrocerium rod
- ✖ **Shelter** emergency blanket, tent
- ✖ **Food** calories are the fuel that runs our bodies
- ✖ **Water** filled water bottles, water filtration/purification supplies
- ✖ **Clothing** extra shirt and socks

Many people toss signaling gear into the Navigation category. Definitely add a good whistle to the kit, as well as perhaps a signal mirror. Hopefully you'll never need them.

A little bit of work ahead of time will go a long way to ensure your trips outdoors will be safe, fun and rewarding. The last thing you want is to end up a news headline a week later.

> **RESEARCH THE AREA WELL, SO YOU KNOW WHAT TO EXPECT DURING YOUR TRIP, INCLUDING WEATHER, INSECT PESTS, HUNTING POTENTIAL AND MORE.**

## BE KIND TO SLOWPOKES

When we hike as a group, inevitably some members will move quicker than others. Over time, there may be one or two who are lagging significantly behind. Invariably, what happens is the main group will pause every so often to let those stragglers catch up, and then everyone moves on.

The problem there is that everyone gets to take a breather while they wait for those last couple of people, but then when those folks catch up, they don't get that same break as the rest.

A better approach is to let those slower members choose the pace for the group. They won't feel left behind, and the rest of the group might take the opportunity to take in the sights a bit more as they travel.

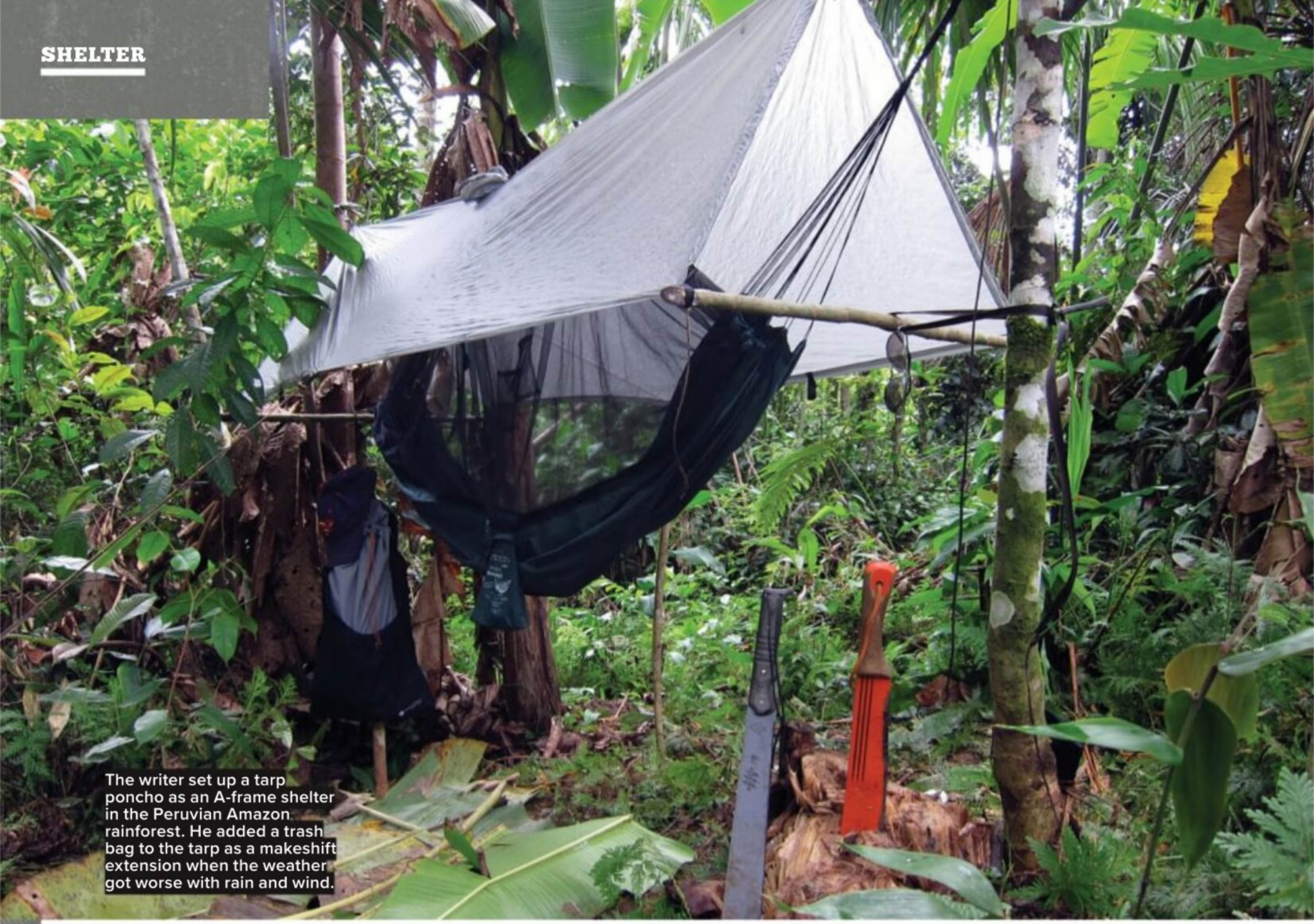
JUST ONE OF SEVERAL DIFFERENT WAYS YOU CAN SET UP CAMP WITH THIS VERSATILE TOOL!

Tarps with a center pull-out loop offer more space and keep condensation off the sleeper.

# TARP CAMPING 101

Tips and tricks for a comfortable stay

BY REUBEN BOLIEU



The writer set up a tarp poncho as an A-frame shelter in the Peruvian Amazon rainforest. He added a trash bag to the tarp as a makeshift extension when the weather got worse with rain and wind.

A tarp is typically made of thin and strong material, such as nylon or polyester, making it easy to fold up into a small size and weight. You can conveniently carry a tarp in your backpack or survival kit, along with some cordage and stakes. Moreover, a tarp can also serve as a groundsheet, blanket or poncho if required.

## FLEXIBLE & ADAPTABLE

Setting up a tarp can be done in various ways, depending on weather conditions, terrain features and available resources. To support your tarp, you can use trees, poles, rocks or other natural anchors. You can also adjust the height, angle, shape and size of your tarp to suit your needs. For instance, a low and enclosed tarp shelter is ideal for warmth and privacy. At the same time, a high and open one is perfect for ventilation and visibility. There are several standard configurations to choose from, including the A-frame, lean-to, and flying diamond or plow point. Specialized tarps designed for specific purposes, like hammock or pyramid tarps, are also available.

In an emergency situation, such as getting lost, injured or stranded in the wilderness, a tarp shelter can truly save your life. It helps you stay dry, warm and comfortable until help arrives. Additionally, it can serve as a signal for rescuers. Not only that, but a tarp can also be used to collect rainwater, make a stretcher or cover a wound.

Quickly setting up a shelter can be a lifesaving skill. I've been a tarp camper for about 20 years and counting. Two years ago, I switched to a lighter, easier tarp from my usual 7x5 silnylon. Designed by Dan Wowak (History Channel's *Alone*) of Coalcracker Bushcraft, the T6Zero tarp is made from lightweight xenon polyester sil fabric. It is an excellent alternative to Mylar blankets or plastic garbage bags. The tarp is waterproof and comes in a variety of colors. It's lightweight, easy to pack and simple to set up, with only two stakes and two tie-outs.

## A-FRAME

When setting up a tarp in an A-frame configuration, there are several ways to do it, and one of them involves using three Y-poles, one long ridgepole and four stakes. Although Dan may not have imagined this type of setup for the T6Zero, it is a common method that many prefer.

To create the frame, the ridgepole is held up with one Y-pole wedging the ridgepole against a small tree. Once that is in place, the other two Y-poles are positioned to hold up the other end of the ridgepole, and it balances until the tarp is put on.

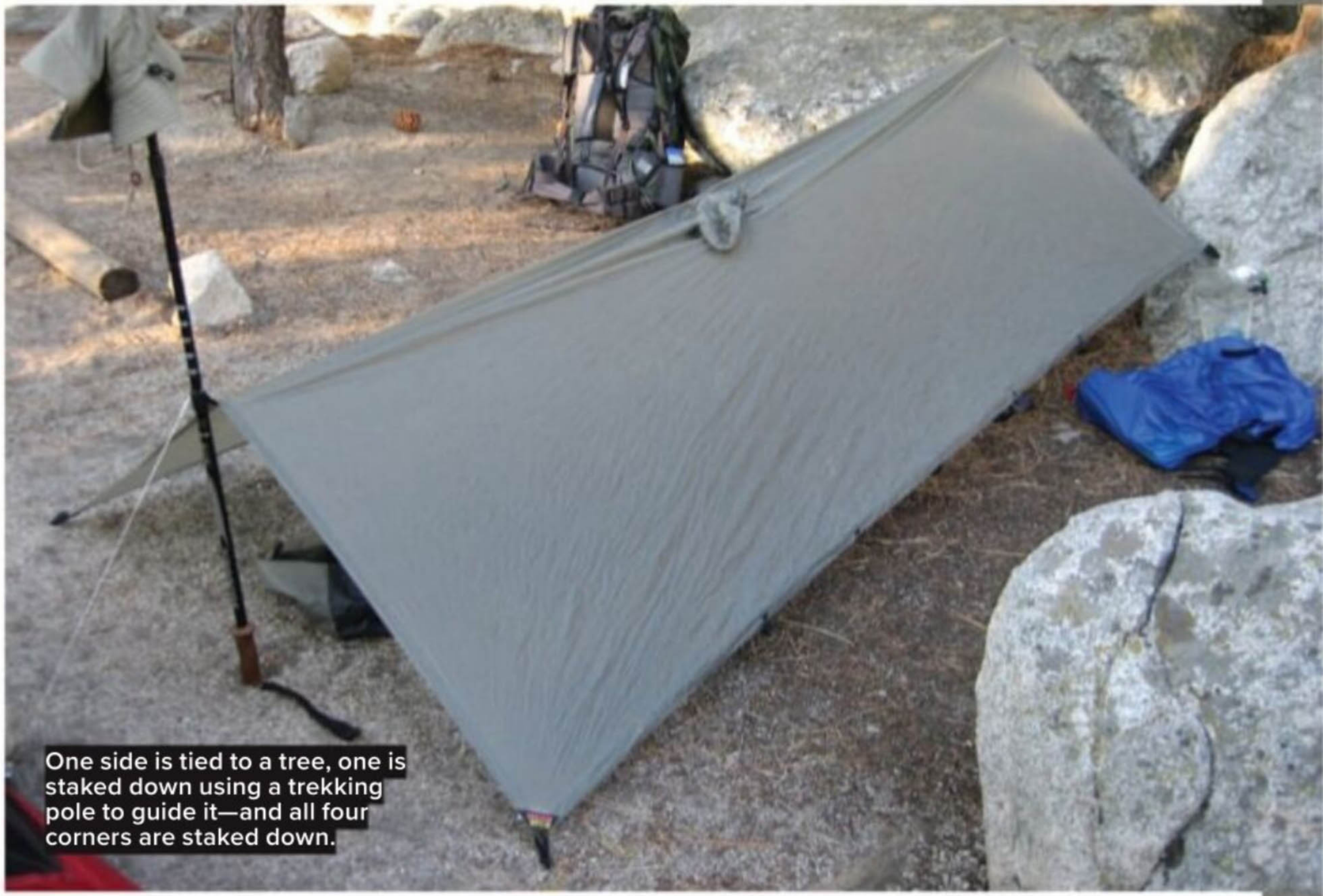
Next, the tarp is loosely thrown over the ridgepole, and long stakes are hammered into the corner loops. On the other side, where the tie-outs are, the stakes are hammered into the ground first, and then a shoelace knot is tied around them. The tension keeps the ridgepole in place, as well as the two Y-poles that are not hammered into the ground.

It is worth noting that Dan was consulted regarding the xenon sil material, and he confirmed that it would not wet through with contact like silnylon does with a ridgepole.

## LEAN-TO

Setting up a quick shelter in the wilderness can be a lifesaving skill. The T6Zero lean-to is an excellent option, especially during hot weather. It offers ample space and ventilation for a comfortable stay. The setup is simple and easy to follow. First, separate the cordage and tie the tarp around a tree at shoulder height. Then, walk to the other tree and secure the tarp using a shoelace knot. Two stakes can be inserted in the stake loops to make the tarp taut.

To enhance the effectiveness of the lean-to, modifications can be made. For example, adding a support stick to keep the tarp from drooping in the rain creates more room inside. The support stick should be



One side is tied to a tree, one is staked down using a trekking pole to guide it—and all four corners are staked down.

Above the treeline, the author used two trekking poles with guylines wrapped around and staked down for primary support.

longer than the tarp's width and placed in the crotches of the Y-sticks, which are positioned at the head and foot of the tarp. Additionally, the sides can be built up with firewood, giving it more of a shanty effect. This can also be useful when sleeping next to a long fire, where wood can be positioned on either side of your sleeping position to easily toss on the fire.

Overall, the T6Zero lean-to is a reliable and effective shelter option for outdoor enthusiasts. With a few modifications and personal touches, it can be adapted to various camping scenarios and provide a comfortable stay in the wilderness.

## FLYING DIAMOND OR PLOW POINT

If you're looking for a shelter that can protect you from the elements while still giving you an open view, then this design might be perfect for you. It's like a mini cave with three sides closed and one side open, ideal for keeping out gusts of wind or horizontal rain.

While the term "plow point" seems more common today, this design is still one of the quickest and easiest to set up. Even if you don't have a tree nearby, it should only take a few extra minutes.

Setting up this type of shelter is simple. You'll need three stakes and a tree. Begin by attaching the tie-out to a tree with a shoelace knot. Next, take one stake and use the opposite diagonal stake loop to pin it down tightly. Put the second stake in the last grommet and pull it tight, then pin it to the ground. The last tie-out should be pulled tight at a right angle to measure where to pin the last stake. Once the stake is secure, use the ties to make another shoelace knot and complete the setup.

## BUGS

Tarp camping is an excellent way to experience the outdoors in a minimalist and versatile way. If you're worried about bugs, fear not. There are many effective ways to mitigate their presence and make tarp camping even more enjoyable than traditional tent camping. Here are some tips to help you out.

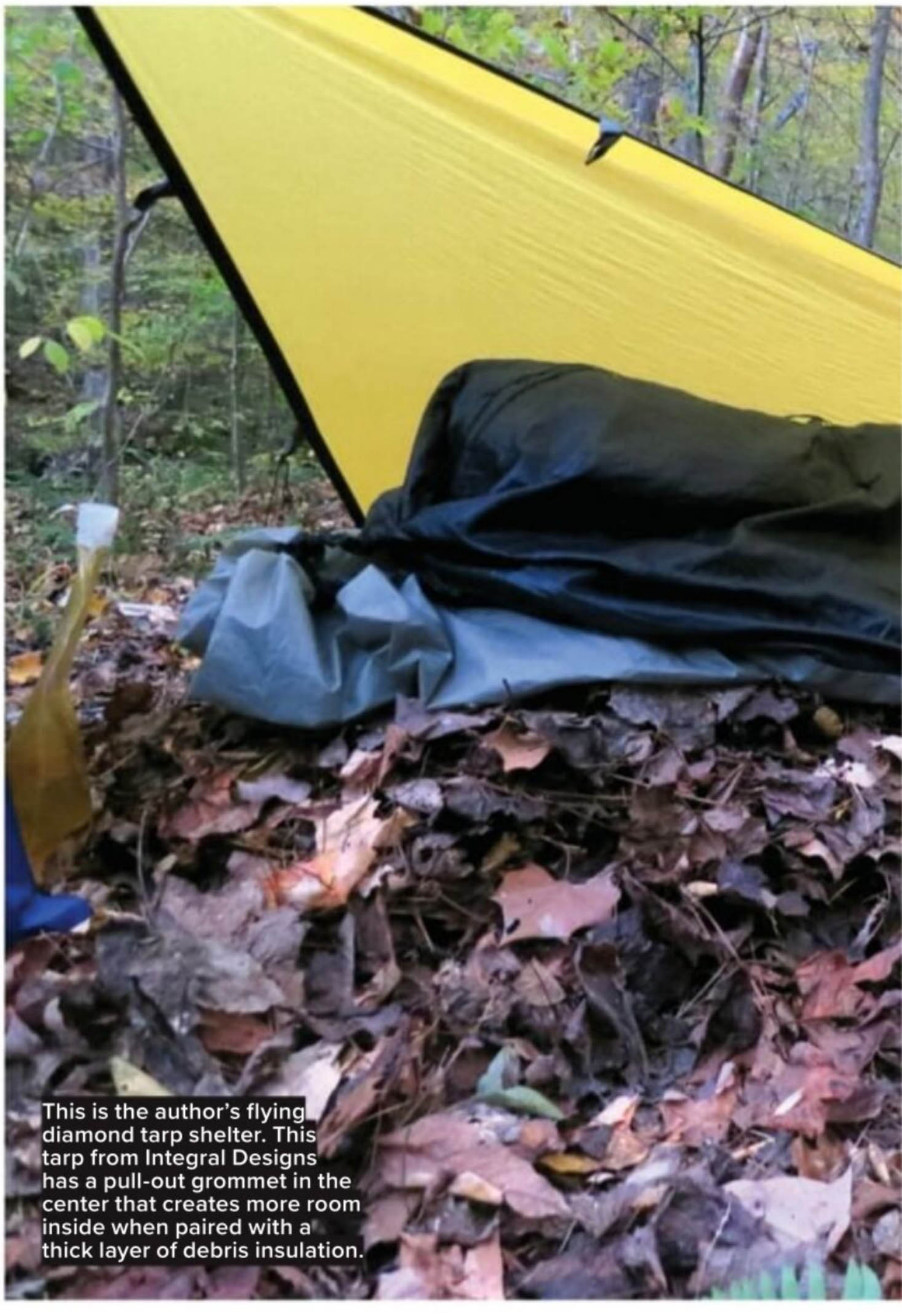
To keep crawling or flying insects at bay, consider using a bivy sack or a bug net. You can also treat your clothes and gear with permethrin. This powerful repellent kills ticks, mosquitoes and other bugs on contact.

When selecting a campsite, avoid stagnant water sources, tall grass and rotting wood, as these areas attract bugs. Before setting up your tarp shelter, clear any debris from the ground.

Pitch your tarp in a way that allows for proper air circulation; this helps to reduces condensation, which can also attract bugs. You can use various tarp configurations depending on the weather and the terrain.

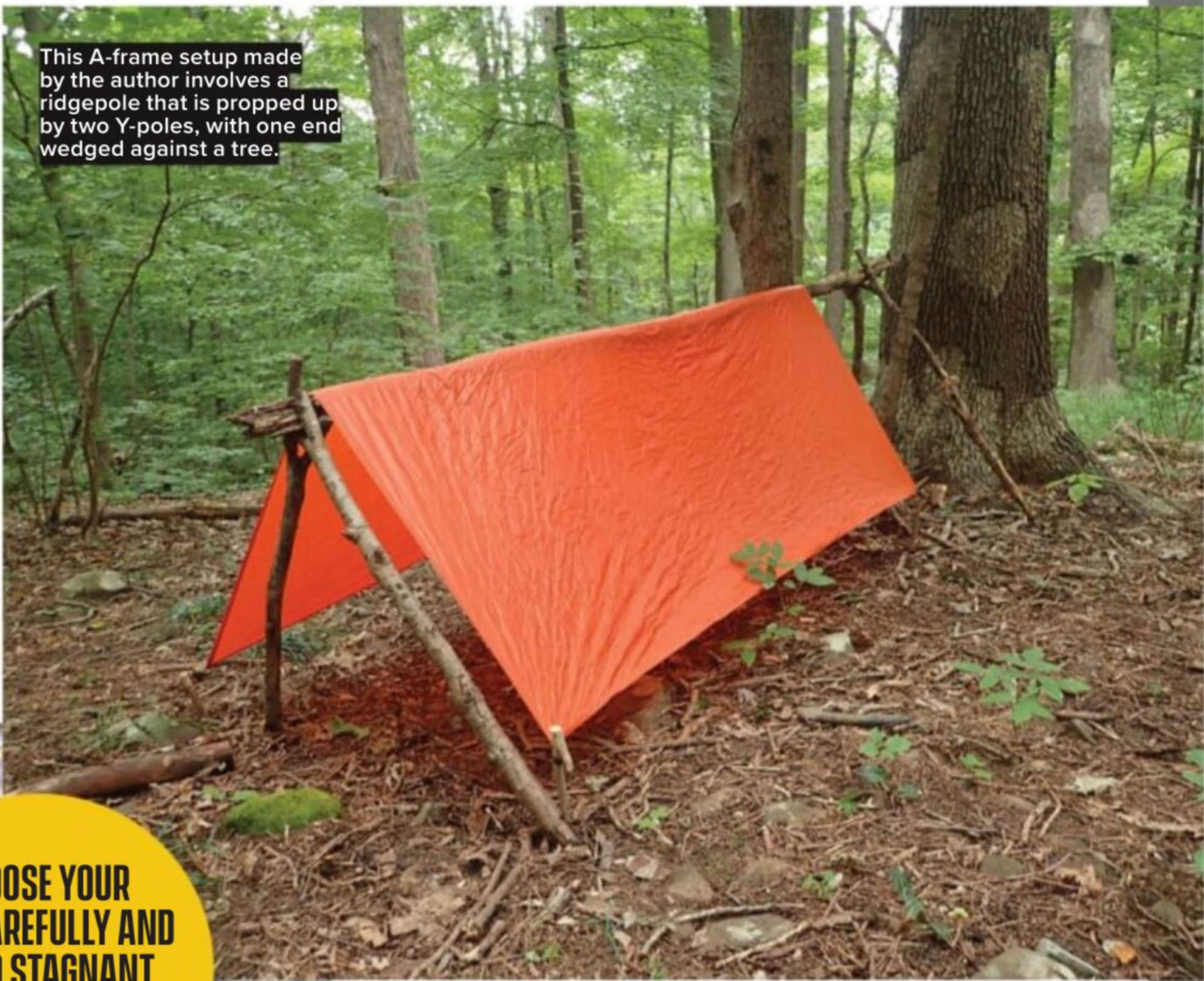
Use natural or artificial smoke to keep insects away from your campsite. You can burn green wood or fresh grass on your campfire or use a device like the Thermacell, which emits a synthetic version of a natural insecticide found in chrysanthemum flowers. By following these tips, you can confidently enjoy tarp camping without any worries about pesky insects.

Whether you're camping in the wilderness or preparing for an emergency, a well-placed tarp can be an invaluable addition to your gear. With its lightweight and compact design,



This is the author's flying diamond tarp shelter. This tarp from Integral Designs has a pull-out grommet in the center that creates more room inside when paired with a thick layer of debris insulation.

it is easy to pack and carry, making it an essential tool to have on hand. Not only is it flexible and adaptable to a wide range of environments, but it's also quick to set up, making it a reliable option in any situation. By protecting yourself from the elements and creating a safe, comfortable space, a tarp allows you to enjoy the outdoors with confidence and peace of mind.



This A-frame setup made by the author involves a ridgepole that is propped up by two Y-poles, with one end wedged against a tree.

CHOOSE YOUR SITE CAREFULLY AND AVOID STAGNANT WATER AND OTHER BUG ATTRACTORS!

## TARP SITE SELECTION

Choosing a good location for your tarp shelter is vital for comfort and safety. Here are some tips to help you find the best spot:

- Choose a soft and level surface for your tarp shelter.
- Look for sheltered areas with natural cover and support from trees.
- Avoid setting up near widowmakers.
- Keep away from low-lying areas with signs of previous water flow and potential for flooding.
- Consider higher ground for warmth and dryness, but be mindful of wind.
- Always be aware of your surroundings and avoid potential hazards like dead trees, animal tracks and dangers.

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Reuben Bolieu is a passionate adventurer who explores remote and exotic places across the globe. He shares his expertise in survival techniques and woodcraft through his acclaimed writing, photography and knowledge in survival classes and outdoor magazines.

# MEET THE STAFF

The many uses of a simple piece of wood

BY JOSHUA RAINES

## MANY OF US, PICTURING GANDALF ON THE SILVER SCREEN, HAVE PICKED UP A THICK BRANCH, THUMPED THE END ON THE GROUND NEXT TO US, AND PROCLAIMED, "YOU SHALL NOT PASS!" WHILE PLAYING THIS ROLE MIGHT BE CHUCKLE-WORTHY AT TIMES, THE VENERABLE WALKING STICK HAS MANY USES BEYOND PRETENDING YOU ARE DEFENDING THE REALM AGAINST THE BALROG IN *THE LORD OF THE RINGS*.

MOST OF HAVE MEMORIES OF FINDING JUST THE PERFECT BRANCH FOR AN OUTING!

If you head to any decent sporting goods store, you'll find a wide array of walking sticks, most of them made of carbon fiber or aluminum. They typically come in pairs and are sometimes called trekking poles. While those can be useful, the walking aids we have in mind here are perhaps a little more traditional or old-school.

I've seen the walking stick made from a wide range of materials, from PVC to metal. My own preference is for wood. It just seems to feel right and appropriate to use a wooden walking staff when I'm on the trail. But choose whatever you'd like—whatever speaks to you. If you're going with wood, look for oak, hickory, ash or walnut. You want it to be strong but somewhat lightweight, since you'll be carrying it with you for miles to come.

Every ounce we add to our load out needs to be carefully considered. Nobody wants to carry more weight than absolutely necessary. So what makes the walking stick worth its weight when hiking?

### BALANCE AID

Perhaps first and foremost, it can help negotiate uneven terrain. Sometimes a third leg, so to speak, can be very helpful, such as when walking a hilly trail that is covered in loose dirt and gravel. Plant the end of the walking stick with each step to give you an added point of contact with the ground. If you twist an ankle or knee, the staff will certainly be appreciated as you limp your way back to civilization.

While they work well to help us stay on our feet, that's just the tip of the iceberg.

### CHECKING DEPTH

If you need to cross a creek or stream in your travels, it might be wise to use the stick to check for dips and hidden rocks. Of course, it will also tell you the depth of the water as you go along so you can decide whether it is safe to continue. There can be sudden depth changes that could prove rather troublesome and it would be nice to know about them before you step down. The stick can be used in a similar fashion when going through deep snow.

> **MANY WOOD CARVERS HAVE TURNED THEIR ATTENTION TO CRAFTING TRULY BEAUTIFUL WALKING STICKS FOR USE AND DISPLAY.**

### REACHING TOOL

Should something be dropped and end up floating in the stream, the stick can be used to reach and snag the item. It can also help you remove a pot from the fire by lifting it by the bail.

### MEASURING

If you place markings on the walking stick ahead of time, you can use it as a reasonably accurate ruler. This could prove handy when fishing so you can ensure you're complying with size limits. It could also be useful when you're documenting the size or stride of animal tracks.

### BINDLE

Remember the hobos you used to see in old-time cartoons? The ones who walked with all of their worldly possessions in a wrapped up handkerchief tied to a stick? That's not a bad way to carry a small amount of gear, should you be so inclined. It isn't nearly as good as a backpack, of course, but it'll work as an improvised carry method.

### PATH CLEARING

The walking stick can be helpful when it comes to clearing the path in front of you. Use it to push branches away, break through cobwebs or check for trip hazards in the underbrush.

### CAMERA STAND

While you won't be able to physically attach your camera or phone to your walking stick—at least not without some alterations and mechanical enhancements—it can still be used to steady your hand as you snap photos of the flora and fauna. Simply rest your camera or phone on the top of the stick and away you go.

### SHELTER SUPPORT

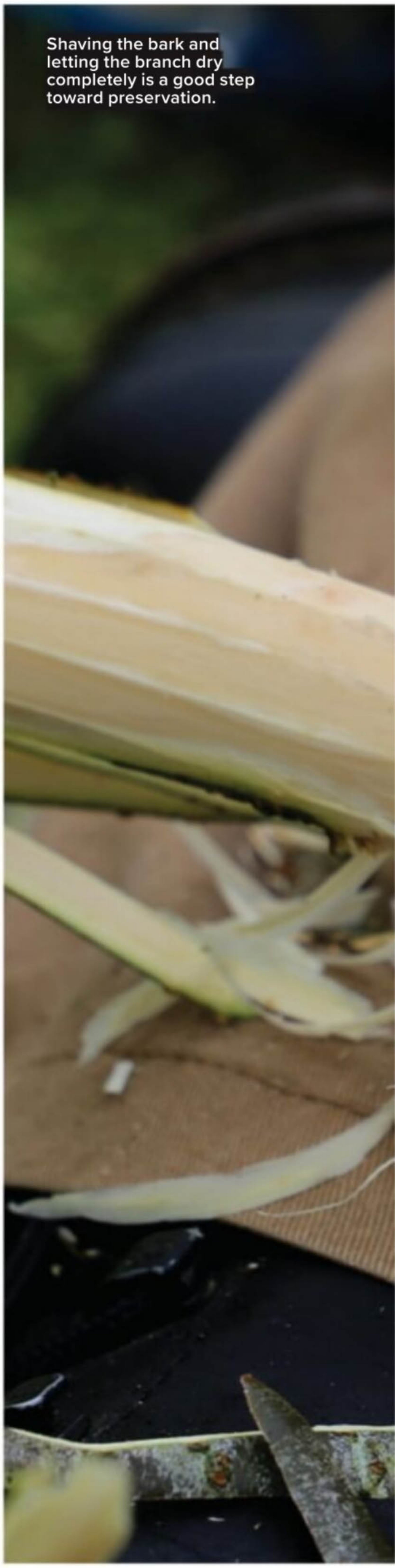
If you end up having to spend an unexpected night outdoors, the stick can be used to assist in the construction of an expedient shelter. It could serve as the crossbeam in a lean-to, for example, or as the main support in a debris hut.

### DIGGING

Should you find it necessary to dig a hole, such as for a Dakota hole fire lay or even just a cat hole to go to the bathroom, having a sturdy stick at your fingertips can save your actual fingers.

### HUNTING AND FISHING

Don't plan on throwing a stick as a spear to secure dinner, not without an awful lot of practice. However, you can still use the stick to obtain food. For starters, tie a hook and line to the end and use it as an improvised fishing pole. You could attach a spear point or just sharpen the end of the stick and use it to spear fish as well.



Shaving the bark and letting the branch dry completely is a good step toward preservation.

LEAVING THE SURFACE ROUGH ADDS CHARACTER AND SOME VISUAL APPEAL!

There are also any number of commercially produced walking sticks available, if you want to take a more modern approach.

Hint: keep the point of the spear in the water to make it easier to hit the fish, rather than holding the spear above the water's surface. The spear point could also be used on land to procure meat by spearing small game or birds.

### DEFENSE WEAPON

Provided it is simply a stick, without too much in the way of embellishments or additions, a walking staff is usually allowed just about anywhere, including in areas that are supposed to be weapons-free. With a little training in the use of a baton or staff as a weapon, it can be formidable. That said, leave the sword cane at home when you're headed to the airport, as TSA will definitely take it and you'll probably end up in a prone position on the floor. If you plan on regularly carrying your walking stick into businesses and such, it will likely go better for you if the stick is looks finished—polished, or something along those lines.

A walking stick is one of the simplest tools imaginable, requiring nearly zero refinement on the part of the user for full functionality, yet it's one that has numerous uses. While you could just grab a new branch any time you head out on the trail, taking the time to customize one and making it truly your own is more fun.

## SIZING THE STICK

While the size of the staff is largely a matter of personal preference, as a general guideline look for something that is tall enough to reach about to your sternum. That seems to be a good average for most folks. If it is too tall, it will feel cumbersome; too short, and you'll find yourself leaning over when you're using it as you walk downhill.

For thickness, about an inch and a half works well for many people. If it's an inch or less, you may find your hand cramps over time from trying to grip it. Plus, you want the stick strong enough that you won't have to worry about it snapping when it's in use. However, thickness adds weight to the stick, so it is sort of a balancing act.

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Joshua Raines has been tramping through forests practically since he was old enough to walk. He enjoys trying out new innovations with gear and technology as well as getting back in touch with his roots and the traditions of those who came before.

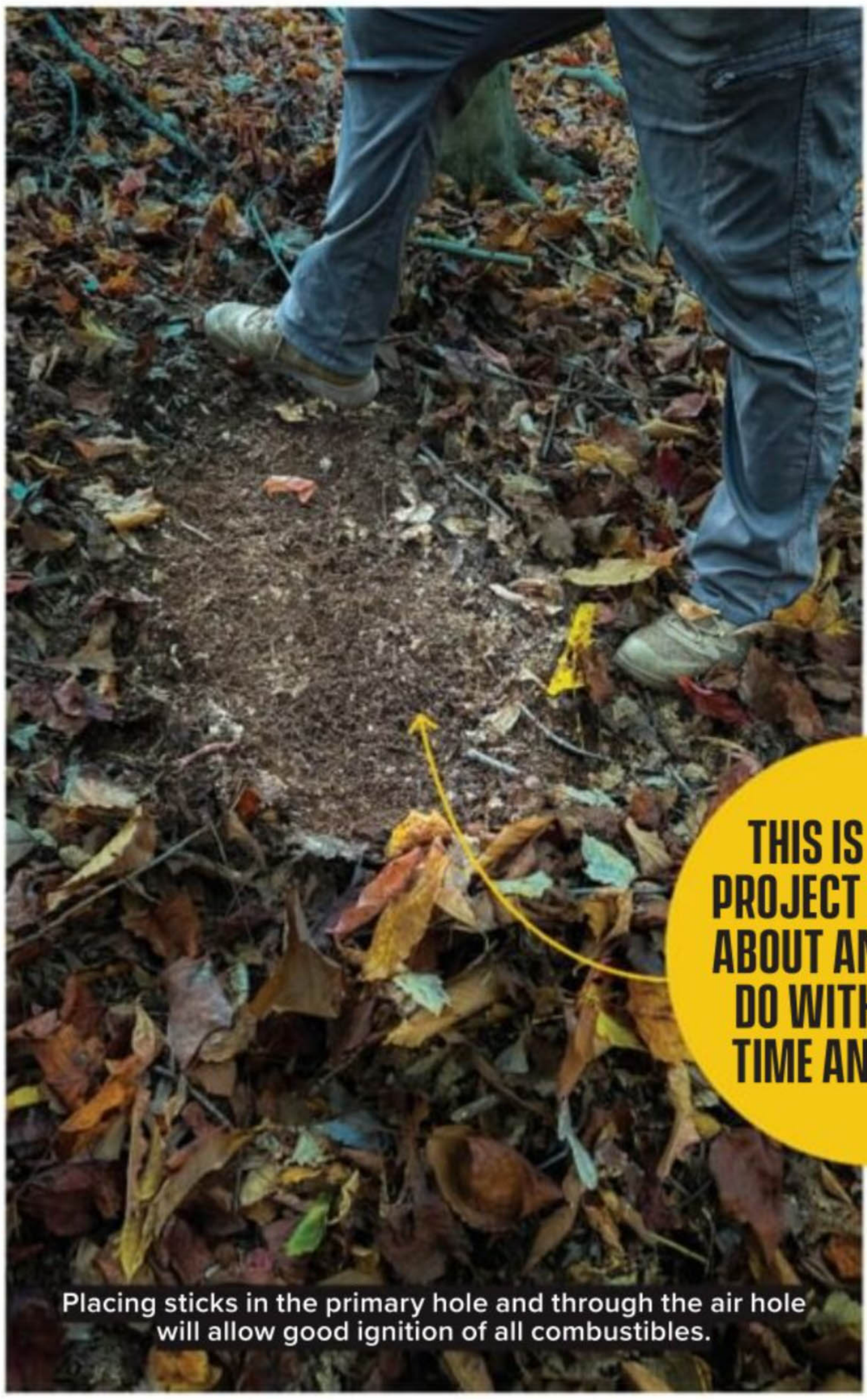
# THE DAKOTA FIRE HOLE

## Separating fact from fiction

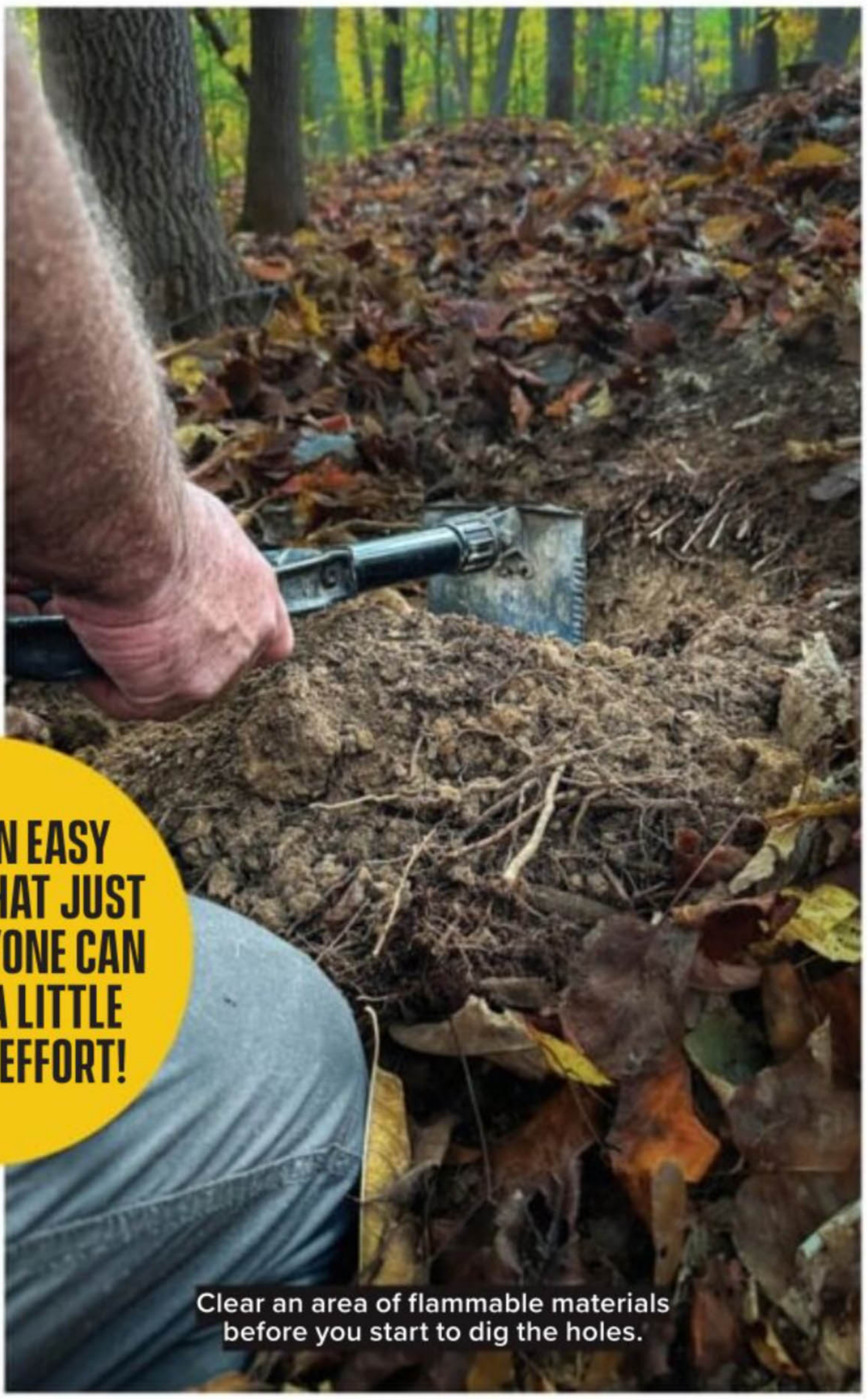
BY CRAIG CAUDILL

**ITS EXACT ORIGINS ARE UNKNOWN. THERE HAVE BEEN CONNECTIONS TO THE GROUP OF NATIVE AMERICAN TRIBES COLLECTIVELY KNOWN AS THE OČHÉTHI ŠAKÓWIŊ, OR IN ENGLISH, SEVEN COUNCIL FIRES. TODAY, WE KNOW THEM AS THE DAKOTA, LAKOTA AND NAKOTA SIOUX NATIONS.**

If the downslope hole faces the prevailing wind, you can get plenty of heat with this chimney effect.



Placing sticks in the primary hole and through the air hole will allow good ignition of all combustibles.



Clear an area of flammable materials before you start to dig the holes.

THIS IS AN EASY PROJECT THAT JUST ABOUT ANYONE CAN DO WITH A LITTLE TIME AND EFFORT!

These Indigenous tribes had to build fires on prairie fields full of flammable grasses as they followed bison herds. They may have used some form of what we today call the Dakota fire hole to avoid problematic winds. This type of fire hole does not diminish the smoke from a fire. That is determined entirely by the combustible material you use in the fire, not the fire setup itself. I enjoy using this setup when a minimal fire is needed for cooking and thermoregulation. Let's face it, not every situation requires a large, blazing campfire, as fun as those can be. In some cases, you might be very limited in available resources. What this fire does very well is create a chimney effect, which makes it a hotter burning fire due to the concentrated oxygen compared to a traditional campfire.

## BENEFITS

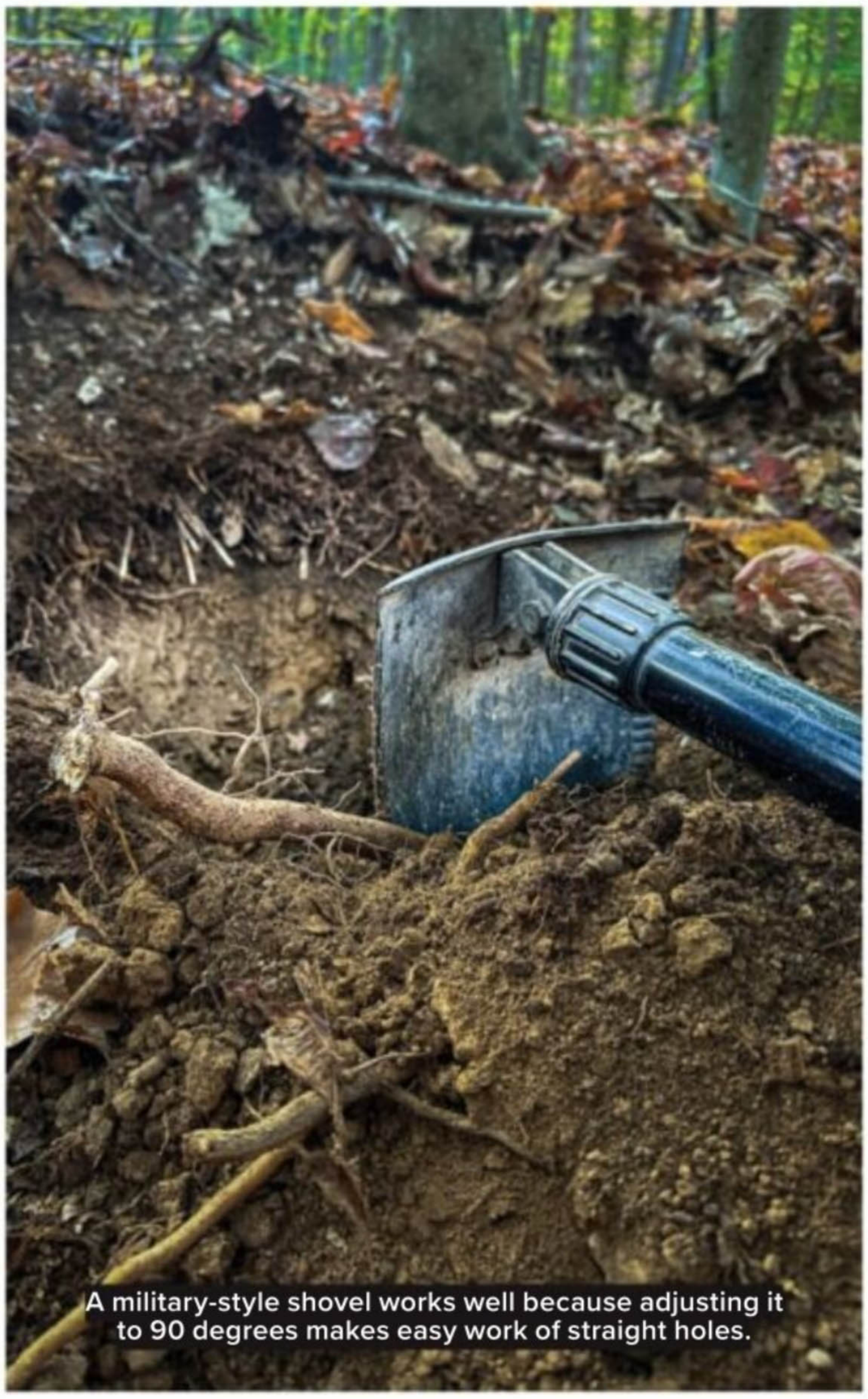
A Dakota fire hole has numerous benefits. It will use less fuel when set up correctly and offers comparable heat to a traditional campfire setup. This makes it more efficient when resources are limited. Most of the flames from the combustible material will be below ground level. It still produces smoke and light, but it's a stealthier option when lower light discipline is needed.

Because the flames are below ground, it dramatically reduces the chance of accidental forest fires. A Dakota fire hole will shield the primary flames from gusty winds when it's made correctly.

Lastly, it provides an optimal setup for cooking food. Since the heat is concentrated in the chimney area, you can cover that hole with green sticks to create a grill and cook food directly over the fire.

## BUILD IT

To build a Dakota fire hole, you can use modern or primitive tools, depending on your whims and desires. For ease of setup, I typically use a military-style folding shovel. Still, you can use a digging stick (see sidebar, p. 31) to maintain the historical


A military-style shovel works well because adjusting it to 90 degrees makes easy work of straight holes.

The primary hole needs to be about 12 inches round and 12 inches deep.

accuracy of the project. I used twigs and limbs from a river birch to start the fire for the project here. River birch is an excellent resource for fire as it contains resin—similar to white birch, pine, cedar and juniper—that acts as an accelerant. As with all fires, have some water on hand to extinguish the fire entirely before leaving the spot for other activities. The following steps will give you a great Dakota fire hole to meet your needs.

For site location, look for a sloped area, preferably away from large roots and rocks. Make sure it's at least 9 feet away from anything flammable. If you build it like I did in a forested area, clear the leaves away from where you will dig the hole.

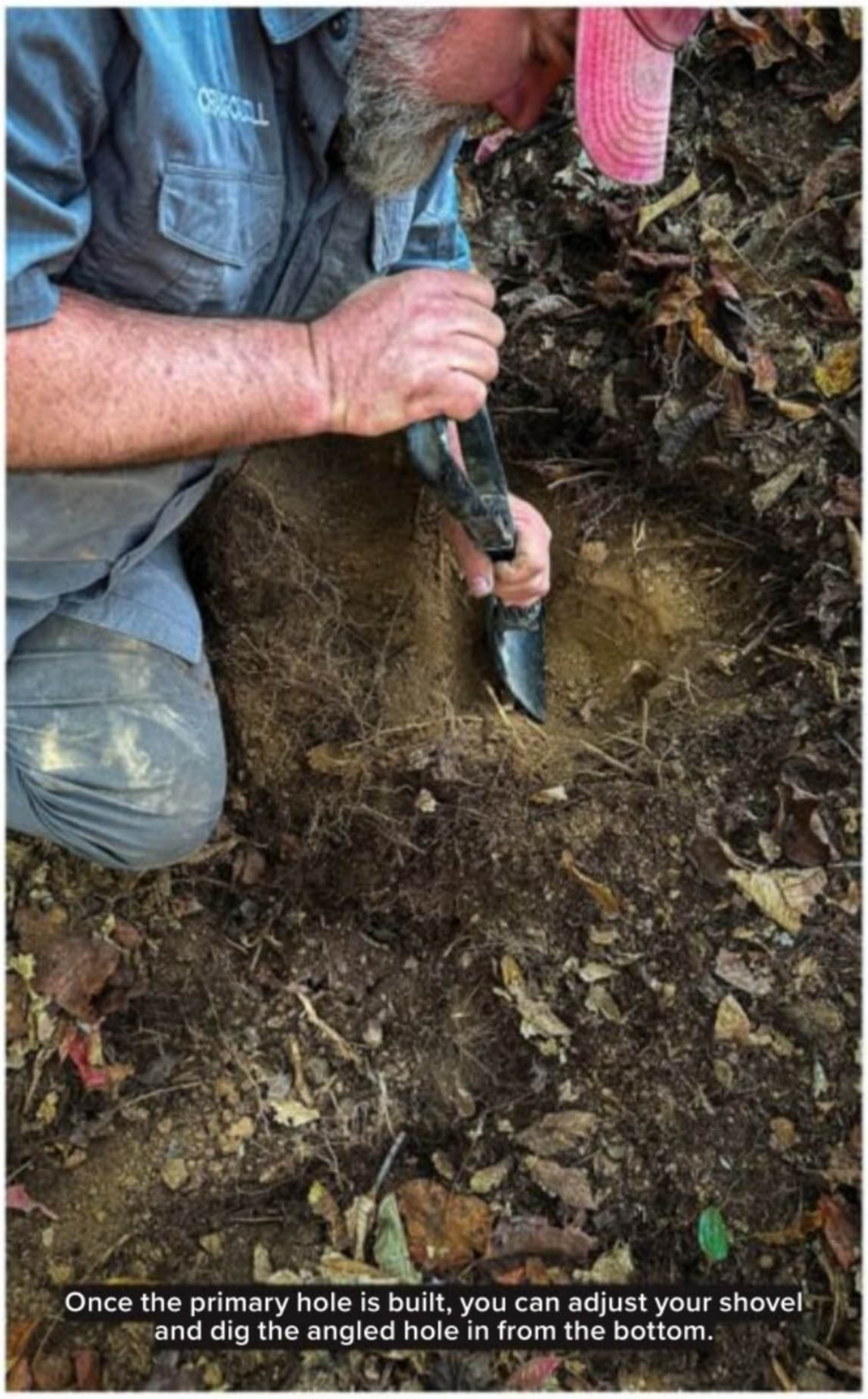
Begin by digging the central, or primary, hole about 12 inches deep and 12 inches in diameter. This is where the fire will burn. The dimensions can be adjusted based on your needs, but this is a standard size.

Dig a second hole about a foot away and downhill from the first hole. This one should be roughly 10 inches deep and 6 inches in diameter. Angle this hole to connect to the bottom of the central fire hole, forming a tunnel that will provide the airflow that makes the Dakota fire hole efficient. This hole should face the direction of the prevailing winds so they blow into this hole. The airflow tunnel must have a clear path into the central hole. Make sure no debris or dirt is obstructing the way. Proper airflow will ensure a hotter and more efficient burn.

Alternatively, you can use a stone across the middle of one long hole to get the same effect. I suspect the early users of this setup did not do this because they did not have many stones in this area; they used only the earth and the two holes. However, in areas where rocks are plentiful, dig one long hole and use a rock in the middle to serve as the bridge rather than the soil.

## LIGHT IT UP

Start building your fire by placing your fuel at the bottom of the



Once the primary hole is built, you can adjust your shovel and dig the angled hole in from the bottom.

Keep the dirt nearby to fill the holes once you are finished using the fire.

central hole. Tinder can be dry grass, leaves or small twigs. I typically keep fatwood in my kit or source it from the environment. Since I had a river birch nearby, I used it for this setup. Next, add kindling, which includes slightly larger twigs and sticks. Finally, add your primary fuel: larger sticks and logs if desired. Remember, due to the efficiency of the Dakota fire hole, you won't need as much fuel as you would with a regular fire.

Light the fire from the top. The hot air will be pulled through the airflow tunnel as it burns, creating a chimney effect. This increases the fire's efficiency and produces a hotter flame for your use.

Because of the concentrated heat, the Dakota fire hole is excellent for cooking. Place a grill or flat stones over the hole, and you have a makeshift stove. Remember to constantly monitor the fire and never leave it unattended.

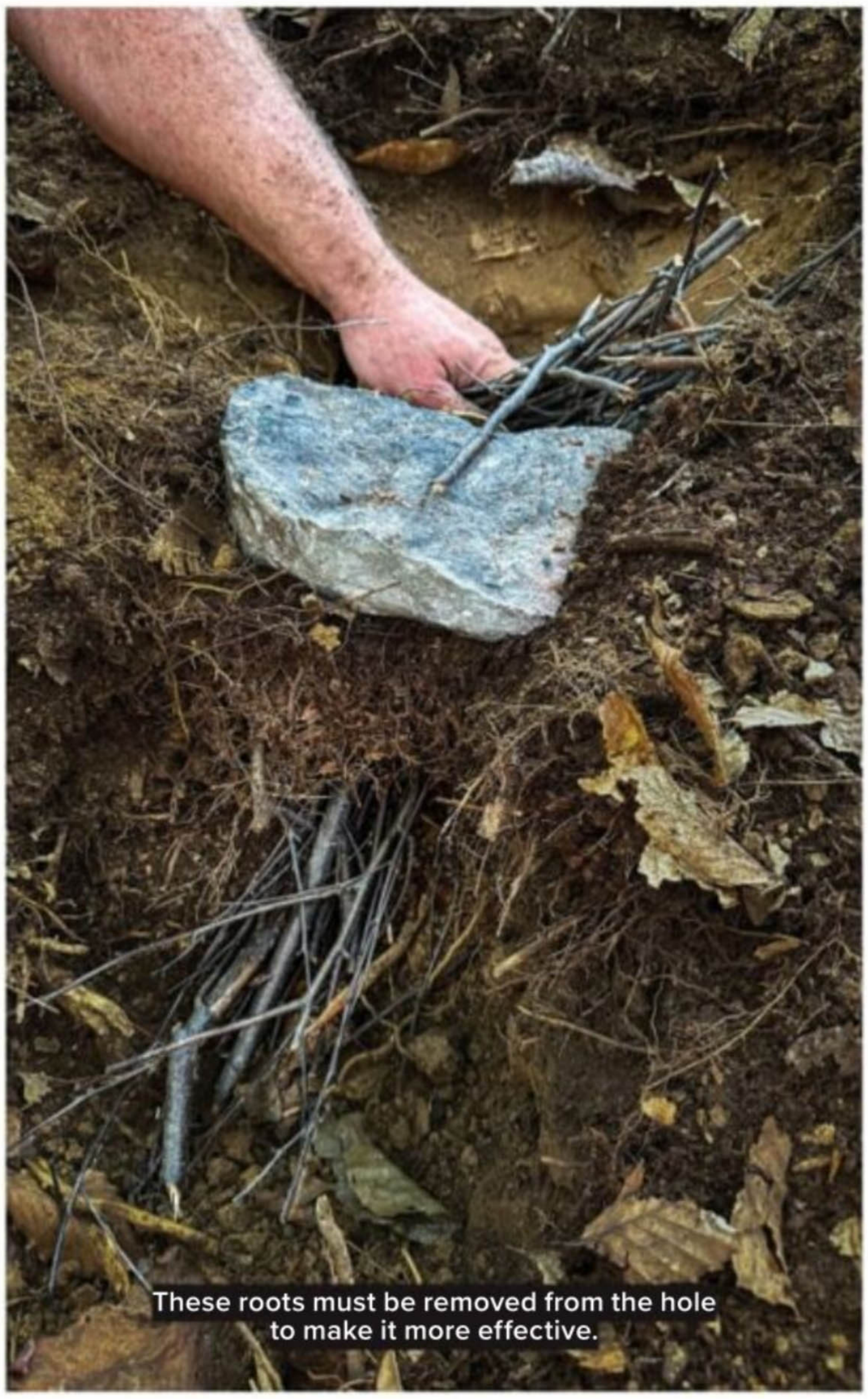
After you're done, ensure the fire is fully extinguished. Pour water into the hole until all embers are out. Stir the ashes with a stick to ensure no hidden embers are burning. Add more water if necessary. Once the fire is out, fill the central hole and the airflow tunnel with the dirt you removed earlier. Pack the soil down firmly and scatter leaves, twigs or grass over the area to return it as close as possible to its natural state.

## TIPS & TRICKS

Some pro tips that will make for the perfect hole are to choose dry ground. Wet or swampy areas can hinder airflow and make digging difficult. Secondly, I am saying it again for emphasis: Face the bottom hole toward the prevailing winds or expect to blow air in this area. Always have a water source nearby, and never leave the fire unattended.

In addition to using this as a grill setup, you can sit nearly on top to maintain body temperature in severe conditions. Frontiersmen used small fire holes like this in the pre-Revolutionary

Small shovels are more maneuverable for a project of this nature.



These roots must be removed from the hole to make it more effective.

War time of our country. They would dig a small hole, build the fire and sit cross-legged around it. An air hole away from them would allow oxygen to fuel the fire. They could then wrap up around the fire and, through the night, place low-smoke, very dry bark or wood pieces to keep the fire smoldering. This would keep them warm and secure with little heat or light signature for aggressors to see them.

The Dakota fire hole is more than just an ancient fire-making technique. It's a testament to the ingenuity of our ancestors, and it's as relevant today as it was centuries ago. Whether you're seeking efficiency, stealth or safety, the Dakota fire hole delivers. Happy camping, and always remember to practice fire safety.

## A DIGGING STICK

If you want to keep the setup traditional, don't use modern tools. You can create an optimal digging stick made from hardwood that will do the job. Choose a dead but firm hardwood such as oak, hickory or ash. Hardwood will last a long time. Next, carve a "shovel" end to the stick by cutting angles to the stick's end but not taking it to a point or a fine edge. Keep it blunt so it does not fall apart easily. If the stick has moisture in it, you can harden it by placing it over the flames of a fire and rolling it. Do not let the material burn, as this will decrease its density and hardiness.

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Craig Caudill is the director of Nature Reliance School and author of bestselling backcountry skills books, including the soon-to-be-released *Wild Woodcraft*. Craig teaches coursework at his home base in Kentucky and online to thousands of students through his online membership. You can reach Craig at naturereliance.org.

## CHAPTER 2

# HOMESTEADING

SELF-RELIANCE CAN BE A LOT OF WORK, BUT THE REWARDS MAKE IT WORTH ALL OF THE EFFORT.

Self-sufficiency can be expensive, but there are ways to reduce the bills.

# HOMESTEADING ON A BUDGET

## Tips and tricks for reducing expenses

BY K.H. KOEHLER

**HOMESTEADING CAN BE A FULFILLING AND REWARDING LIFESTYLE, BUT IT CAN ALSO BE CHALLENGING AT TIMES—AND EXPENSIVE! WHETHER YOU'RE JUST STARTING OUT IN YOUR HOMESTEADING JOURNEY OR HAVE BEEN HOMESTEADING FOR A WHILE, DISCOVERING WAYS TO LOWER YOUR EXPENSES CAN BE A BIG HELP.**

Over time, small hacks and saves can add up to huge financial rewards that will help you further down the line. Read on for a number of money-saving tips and tricks for homesteading on a budget.

## SIZE DOES MATTER

Don't try to do everything all at once. Homesteading can be overwhelming if you don't manage your expectations and your expenses. Focus on a few key areas and interests like gardening or raising chickens, and expand from there as you gain experience.

Remember, you do not have to have a full operation going right from the start. One of the key things about homesteading is that it's as much about the journey as the destination. You should learn and grow at your own speed, and you should never compare yourself to others. Take your time and build your skill sets, adding to them when you can.

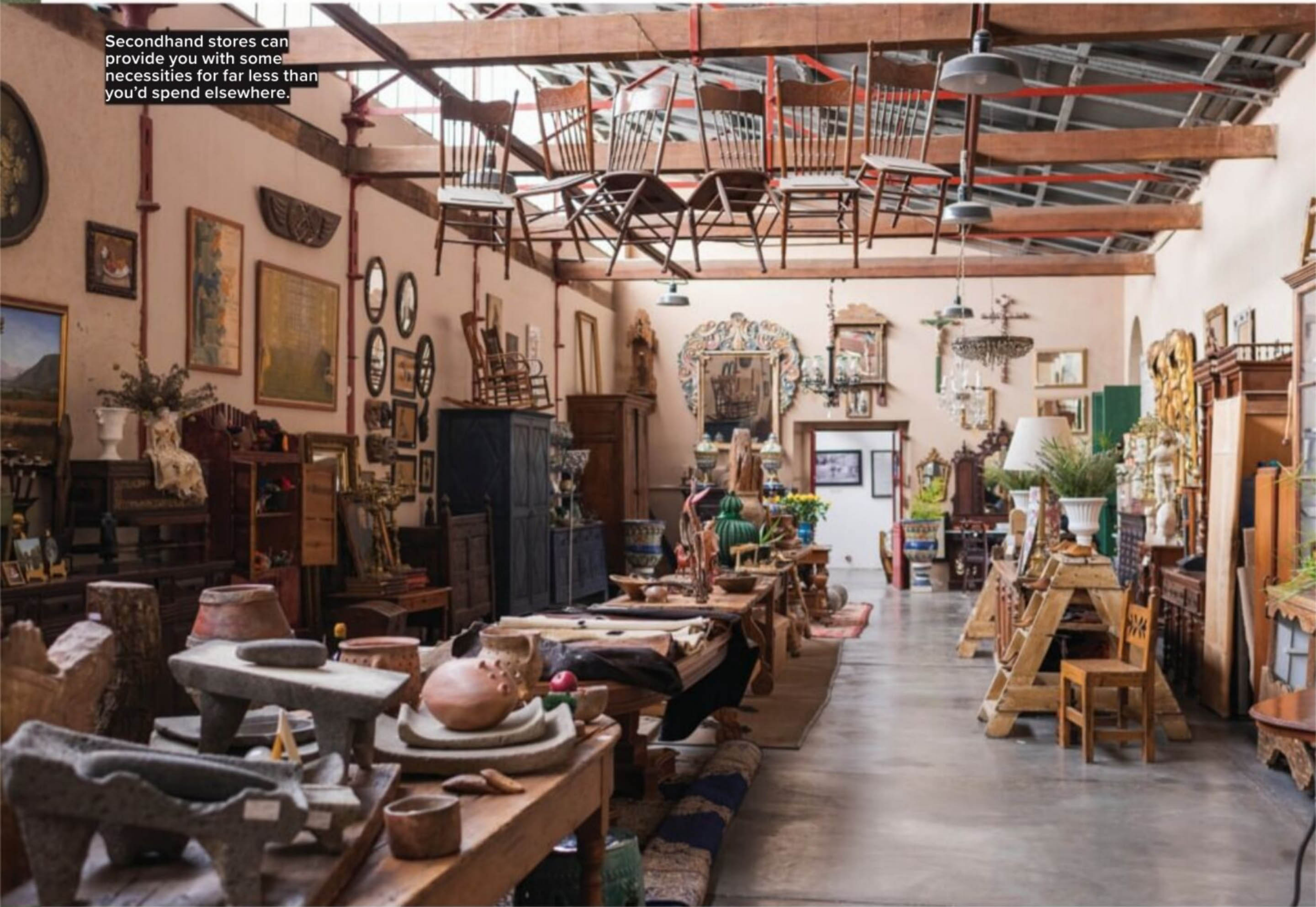
## PLAN IT OUT

Invest in what interests you. It makes no sense to raise animals you don't need or grow vegetables you don't like. Treat your homestead as if it's a business and invest your money and time wisely in resources you and your family will actually use. Aim for areas of interests that you already have some skills in or have an interest in learning more about.

Just like in a business startup, write up a detailed plan and how you will execute each of your goals. You can use a notebook, a spreadsheet or create a whole planner. Make your homestead your personal project.

## REDUCE, REUSE AND RECYCLE

Before buying new tools or equipment, see if you can repurpose or adapt what you already own. For example, you can use old cinder blocks or concrete blocks—or even an old wheelbarrow, discarded tub or tires—



Secondhand stores can provide you with some necessities for far less than you'd spend elsewhere.

to create inexpensive raised garden beds. A used dresser or vanity rescued from the dump can be repurposed into a chicken coop with some minor alterations.

Take the time to dig through your garden shed or garage and see what you already have. Try to visualize things through the lens of what "second life" you can breathe into existing items. You will be surprised by what you can create if you start thinking outside the box.

A wheelbarrow or garden cart will save your back when it comes to hauling things in the homestead.

USE GARDEN SCRAPS TO CREATE COMPOST AND USE IT TO IMPROVE YOUR SOIL!

## AVOID DEBT

If you can't afford it, don't invest money in it at the moment. It makes no sense to incur a large amount of debt at the start of your homesteading journey. Debt can send you down a bad road.

Look for less expensive workarounds to accomplish your goals. Failing that, put some of your ideas on the back burner and save up until you can purchase the tools and materials necessary to accomplish them properly.

Start a homesteading fund to help with expenses down the line. For instance, anytime you have loose change, put it in a jar. Consider cutting out certain habits or small purchases during the week and transferring the money you would have spent on petty items to your fund. Watch it grow.

YOU HAVE TO BE ABLE TO MANAGE YOUR MONEY WELL, AS THERE WON'T ALWAYS BE VERY MUCH OF IT TO GO AROUND.

## FOR RENT...NOT SALE

You don't need to buy every tool you need to finish a project. Many local hardware stores and chain outlets offer rental tools. If you need a specialized tool, consider renting it rather than investing money in something you may use only once.

Alternatively, you may want to borrow a tool from a friend or family member. Just be respectful of how you treat someone else's property.

## THRIFTING

Look for farm and homesteading equipment and supplies on sites like Craigslist or Facebook Marketplace. You can often find good deals on items like fencing, tools and even livestock. Don't pass up secondhand shops and sheriff's auctions.

Most thrift stores sell a huge variety of items. You can buy mundane household items with repurposing in mind. For instance, items like decorative baskets can be used to gather eggs from your coop or harvest vegetables from your garden. Used plastic containers can be used to store grain, and old, mismatched bowls can be used to feed livestock.

## TURNING SOIL (AND PROFITS)

Saving money is just one facet of homesteading. Some homesteaders also profit from their work. Consider the different products your homestead is generating and whether any of them can be sold online, at farm stands, or in farmer's markets—just be sure to check your local laws on selling food products first.

Selling overflow items can produce enough income to pay for your feed and supplies. You can even create crafts and digital products like courses, learning resources such as YouTube videos, and planners. Popular homestead-produced items include:

- Eggs
- Raw milk
- Produce and herbs
- Honey and beeswax
- Cheese
- Pickled vegetables
- Specialty soaps and lotions
- Jams and jellies
- Live animals

## GROWING GROCERIES

Gardening is a great way to save money on groceries. Start with easy-to-grow vegetables like tomatoes, peppers, squash and zucchini. It may take a season or two to learn what plants grow best in your particular environment. Keep a ledger of what you have planted and take frequent pictures of your garden's growth for reference. This will help you track progress and give you direction in the future.

Let some of your successful plants go to seed so you can replant them in years to come, bypassing the need to buy new seeds each year. You may even want to swap seeds with other gardeners and homesteaders. Once you know a crop is successful in your area, it only makes sense to replant it again and again.

## DO THE CAN-CAN

Canning, freezing and dehydrating your produce can help you make the most of your harvest and reduce waste. There are many tutorial videos on how to can successfully on YouTube and hundreds of books you can buy from Amazon or borrow from a local library. There are also plenty of blogs and websites dedicated to the process.

Flash-freezing and dehydrating are very easy if you don't have the skills or interest in canning. Boil your produce for a very short time—usually 10 to 15 minutes—and then transfer them to an ice bath. Spread them out on a towel on a baking sheet and set them inside your freezer until they are frozen solid, then transfer them to airtight plastic bags and freeze. Dehydrating can be done in an oven on low heat if you don't own a dehydrator.

## DIY

Make your own household items. From bars of hand soap and laundry detergent to cheese and yogurt, there are many goods you can make at home instead of buying them at the store.

For instance, making your own laundry soap is easy. Boil 8 cups of water. Add 2 cups of borax and 2 cups of baking soda to the boiling water, then dilute 1 cup of hydrogen peroxide with 2 cups of water and add to the mixture. Finally, add 2 cups of regular dish detergent and another 8 cups of boiling water. The soap mixture will thicken as it stands.

## NEVER STOP LEARNING

Take advantage of free resources like YouTube and library books to learn new homesteading skills. You can teach yourself everything from woodworking and first aid to beekeeping and how to start a fire without a lighter. There are also special interest groups you can join through social media to sharpen your skills and learn new techniques.

Seek out localized homesteading groups on Facebook that can offer guidance in your particular area. In addition to trading skill sets, many are willing to barter or sell items you need or can't make for yourself.

By following these tips, you can reduce expenses and enjoy the many benefits of homesteading without breaking the bank.

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K.H. Koehler is primarily a fiction author but has been a homesteading enthusiast since her teenage years. She is a professional copy editor and graphic designer, and all of her various books are available at amazon.com. Visit her site at khkoehler.net.

Selling produce, and even crafts and such, at a farm stand can bring in some much-needed income.

# SUMMER CHORES

## Get them done while the sun shines

BY CECI HAMPSON-ELLIS

Your critters rely on you for food and other necessities, so don't let them down.

**WHETHER YOU HAVE 5,000 SQUARE FEET OR 50 ACRES FOR YOUR HOMESTEAD, TO KEEP IT RUNNING SMOOTHLY THERE ARE CHORES THAT NEED TO BE COMPLETED EVERY SEASON, SUMMER BEING ONE OF THE BUSIEST. BECAUSE THERE ARE SO MANY TASKS NEEDING ATTENTION, IT IS EASY TO FEEL OVERWHELMED.**

Below are several summer chores on a homestead, and some tips to help you stay on track and not feel overwhelmed.

## IN THE GARDEN

The garden has most of the time-intensive chores during the summer months—and because it may be a primary source of food, it deserves the extra time.

Pull weeds and water certain rows or beds one day, then move to a different section of the garden the next. It is best to water after weeding so the crops get the water, not the weeds. Remember that pulled weeds can be fed to grazing animals.

While watering and weeding are important during all seasons, by midsummer the approaching harvest will greatly increase your time commitment. There is the rush to harvest your fruits and vegetables before they are overripe (or animals eat them). Then you need to process and store all that summer goodness. Meanwhile, the weather is drier and warmer, so remember to maintain your mulch to conserve water.

Early crops like cabbage and peas can be harvested first, but remember to plant something to replace them. Add manure and till the soil, then plant more of the same or some fast-growing root crops for fall harvest.

This is also a good time of year to test your soil. If soil test results recommend amendments, add them now, before planting a second crop.

Even though you may be up to your eyeballs in gardening, summer is the time to think ahead to the autumn. Think about crops you would like to plant for fall. You can start them indoors, just like you did in the spring, then transfer them outside when the weather cools.

If you have the space and grow alfalfa or other types of hay, summer is also the time to harvest and dry it. Again, even weeds can become fodder for grazing animals, especially goats.

## PRESERVING THE BOUNTY

Mornings are great for outside chores, such as caring for animals and the garden. But when the sun is high it's better to move indoors where it's cooler and start processing the morning's harvest. You can preserve garden and orchard produce by canning, pickling, drying, freezing or storing in a cold cellar, according to the vegetable and your

Stay on top of food preservation so it doesn't overwhelm you.

personal preferences. If you are able, store your vegetables as quickly as possible for a better-quality product.

However, sometimes you may be a little short on both time and storage space. Many herbs can be hung to air-dry immediately after harvest and being cleaned. Summer squashes can be thinly sliced and made into chips in an oven or dehydrator. Cabbage and root crops freeze well if you chop them and spread them on a sheet pan to put in the freezer. Once frozen, simply bag them up.

Remember to label and date everything. If you have a lot of fruit and not enough time to convert it into jams and jellies, you can make and freeze the fruit juice until you do have time in the fall or winter to make jelly then. If you grow grains, after harvest they will need to be threshed and sorted from the chaff.

## IN THE BARN

If you keep animals, this section is for you. In addition to feeding, watering and cleaning, if you have dairy animals, milking will also be part of the year-round daily duties. However, during the summer, specific health problems may arise, and you need to be on the lookout for things such as flystrike and mites.

Watch for health issues in your animals and address them quickly if they arise.

If you are unfamiliar, flystrike is a painful and sometimes fatal condition caused by flies laying their eggs on another animal. The eggs hatch into maggots, which then eat the flesh of their hosts. If your animal(s) become infested, immediate veterinary attention is required. While flystrike mainly seems to affect rabbits, it can happen to other animals, including domestic pets, particularly if their living quarters are not cleaned regularly.

The best way to avoid flystrike is to keep animal areas very clean and keeping droppings and moisture to a minimum. Additionally, you need to inspect your animals regularly for any cuts, sores or feces buildup that may attract flies.

Mites and chicken lice can infest your chickens, making them miserable, and which may seriously harm your birds' health. Again, cleanliness and regular inspections can keep these pests at bay.

Some preventive measures you can take are planting herbs and other plants known to deter pests. For example, spiders do not like mint. You can also sprinkle diatomaceous earth in the nesting boxes and throughout your chicken coop, so when your chickens take a dust bath, they dust themselves with DE too. Some people will sprinkle food-grade DE on their animals'

If you aren't sure how to handle a project, check for books at the library and consult YouTube.

TAKE CARE OF REPAIRS AS SOON AS IS FEASIBLE, SO THEY DON'T GET WORSE!

food to help keep pests at bay. Check with your veterinarian. The USDA lists food-grade diatomaceous earth as safe for human consumption.

Summer is also the time to deworm your animals. Speak with your veterinarian for the best method for the different species on your homestead.

If you keep bees, mid to late summer is primary honey harvest time, because honey production slows. When removing filled supers for extraction, be sure to leave at least one full super of honey for the bees, as they will need it for food.

In most places. summer is incredibly hot. As such, your animals (and you) will need more water. Depending on where you live, you may need to add cooling devices, such as misters or even swamp coolers, in addition to shade structures for your animals. Rabbits are at greater risk for suffering from heatstroke because they are covered with thick fur. In the wild, during the heat of the day, they go into their cool underground burrows. In captivity they do not have this option.

For smaller animals, you can freeze water bottles and let the animals sit or lay next to the frozen bottles as they need. Remember to swap out thawed bottles for new frozen ones regularly. This could quite literally be the

CONSIDER CREATING A CHECKLIST FOR EACH SEASON, MARKING DOWN THE ESSENTIAL CHORES THAT NEED TO BE TACKLED.

difference between life and death for them.

Because of heat, algae may grow in water dishes and troughs, so you will need to scrub water receptacles thoroughly before refilling them.

Many wild animals may also share your property. Try to live harmoniously with them. Birds, squirrels, raccoons, deer and other animals will want to share the bounty of your garden. It is best to offer a few sacrificial plants to the animals, away from the main garden, and protect your fruits and vegetables with humane deterrents. Netting over plants can trap animals for hours or days and is not humane. Painting rocks to look like berries deters animals from stealing the fruit because they've already found the "fruit" to be inedible.

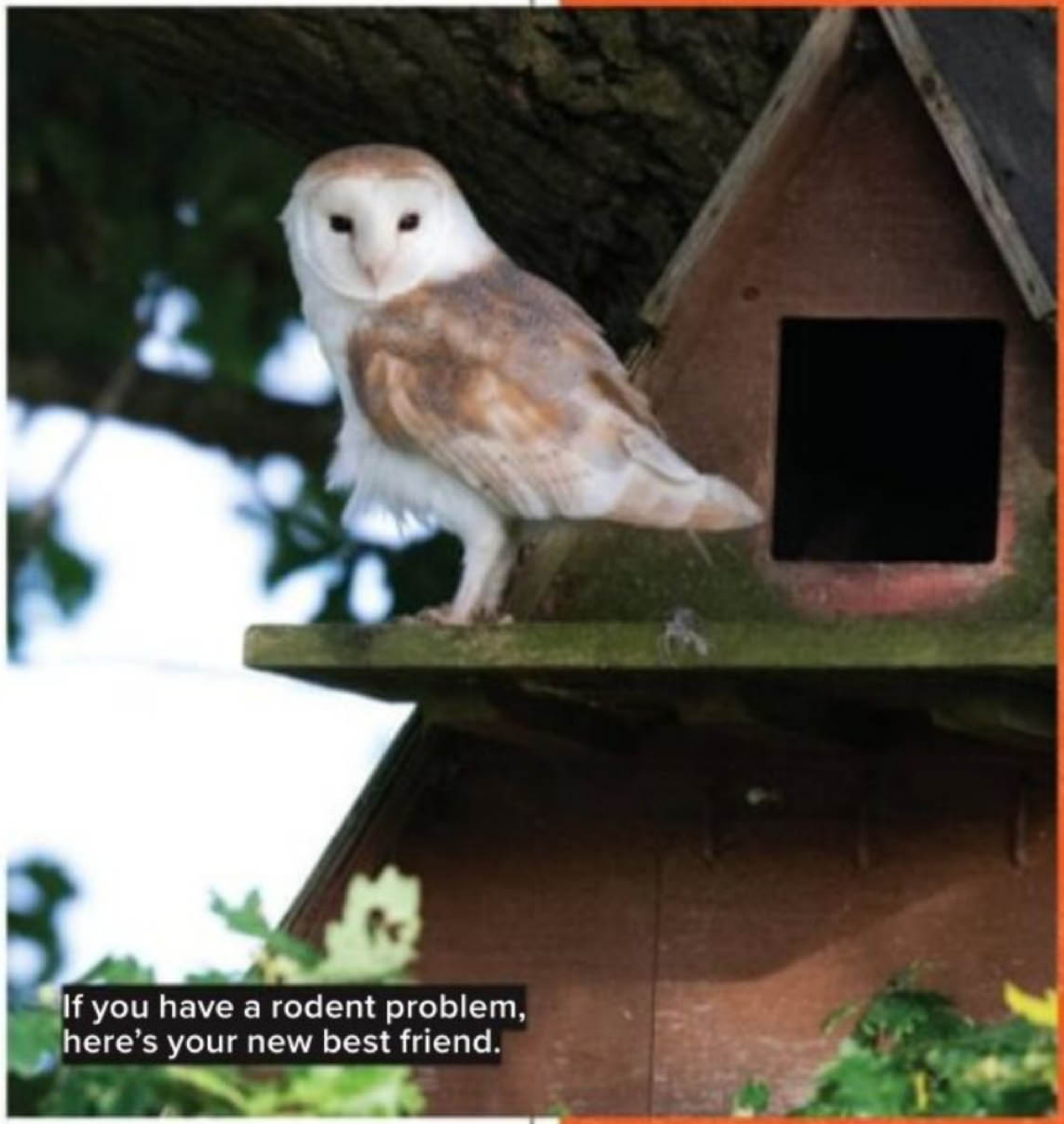
If you feed wild birds, keep all feeders clean. In particular, hummingbird feeders need to be cleaned at least every other day during the hot summer months along with any birdbaths.

## BUILD ME UP

If you have any projects to build or repair, longer daylight hours and warmer temps make for a great time to get them handled. Now is also the perfect time to build your stores of wood for fireplaces and wood-burning stoves. You can gather wood from your property or if someone has trimmed or cut a tree, go collect the wood. It is often free.

Because summer is also high wildfire season, it is prudent to make and maintain a fire break around your property and fireproof as much as possible. This means keeping dried brush away from structures, and putting toys and tools neatly away when not in use. Making sure trees and bushes are trimmed to keep a distance from structures. During exceptionally hot and dry months, you may even need to also water your structures.

Longer days mean you will have plenty of time to get all your summer chores done. Plan ahead to stay cool—and enjoy the bounty of all your hard work.



If you have a rodent problem, here's your new best friend.

## NATURAL PEST CONTROL

Keeping pests away from your homestead can be a full-time job. Fill your garden with deterrent plants and natural predators of pests, instead of adding contaminants or traps.

- **Barn Owl Boxes** placed in the garden or on a couple of trees will help with any rodent problems. The boxes attract owls, which prey on the rodents. Planting rosemary, lavender and purple coneflower also helps keep small rodents at bay.

- **Lemongrass** is a wonderful scent for candles and is delicious in a variety of dishes in addition to repelling mosquitoes. Another way to control mosquito populations is to put up bat houses around your property. A single bat can eat half of its body weight in mosquitoes per night.

- **Yarrow** has some medicinal qualities, such as helping with fevers and stomach issues. It also repels deer. Daffodil bulbs contain a toxin that will deter common problem critters. Plus, the flowers are pretty.

- **Spearmint and Peppermint** are known to repel flies, fleas and spiders. However, it can become invasive and take over the garden. It is best to plant it in movable containers.

- **Basil and Marigold** help to deter tomato hornworms, so intersperse these plants with your tomatoes. To control aphids, release lady bugs. You can deter other garden pests by planting some sacrificial plants away from your garden and let them feast on those.

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Ceci Hampson-Ellis is a Phoenix-based freelance writer. She also volunteers at Liberty Wildlife caring for injured and orphaned wild animals while educating the public on why healthy wildlife is important.

MANY SPECIES TEND TO DO MUCH BETTER IN SMALL GROUPS RATHER THAN SOLITARY!

There are several options beyond the traditional chicken for homestead flocks.

# CHICKEN ALTERNATIVES

## Beyond the buff

BY K.H. KOEHLER

**KEEPING BIRDS CAN BE A HIGHLY REWARDING EXPERIENCE. A FLOCK OF YOUR OWN CAN CONTRIBUTE HIGH-QUALITY EGGS AND MEAT TO YOUR TABLE AND FREE YOU FROM SOME OF THE CONSTRICTION THAT COMES FROM ESCALATING FOOD PRICES. MOST HOMESTEADERS CHOOSE TO MAKE THEM A GOOD PART OF THEIR SETUP.**

But there are also many reasons why a homesteader might want to try a chicken alternative, including available space, hardiness of stock, extreme weather issues and other factors. Some homesteaders are just interested in diversifying and knowing what other options are out there.

Here, you will find the pros and cons of several popular chicken alternatives that you can choose to add to your menagerie.

Beyond just eggs and meat, this crew will provide security detail for the homestead.

## DUCKS

Ducks are widely celebrated all over the world for their meat and eggs. Unlike chickens, they can grow to maturity in as little as eight weeks, which means expanding a flock is fast and easy.

**PROS**

Most breeds of ducks raised for eggs will average 200 to 250 per year, which is comparable to chickens. However, unlike chickens, who only lay for two to three years, ducks can continue to lay well beyond that time and for as long as they live—even up to 10 years. They are also less affected by colder weather, which can shorten the egg-laying season for most chickens. They are more disease-resistant than chickens, are more relaxed overall as a species, and drakes are often not as fierce or territorial as roosters can be, making your flock easier to deal with.

**CONS**

Some duck breeds can grow up to seven times their original size, so feed consumption and cleanup can be a concern. Ducks are quite dirty and love to make a mess, so be prepared to clean enclosures frequently and regularly. They can also be loud, which can cause issues with neighbors.

## TURKEYS

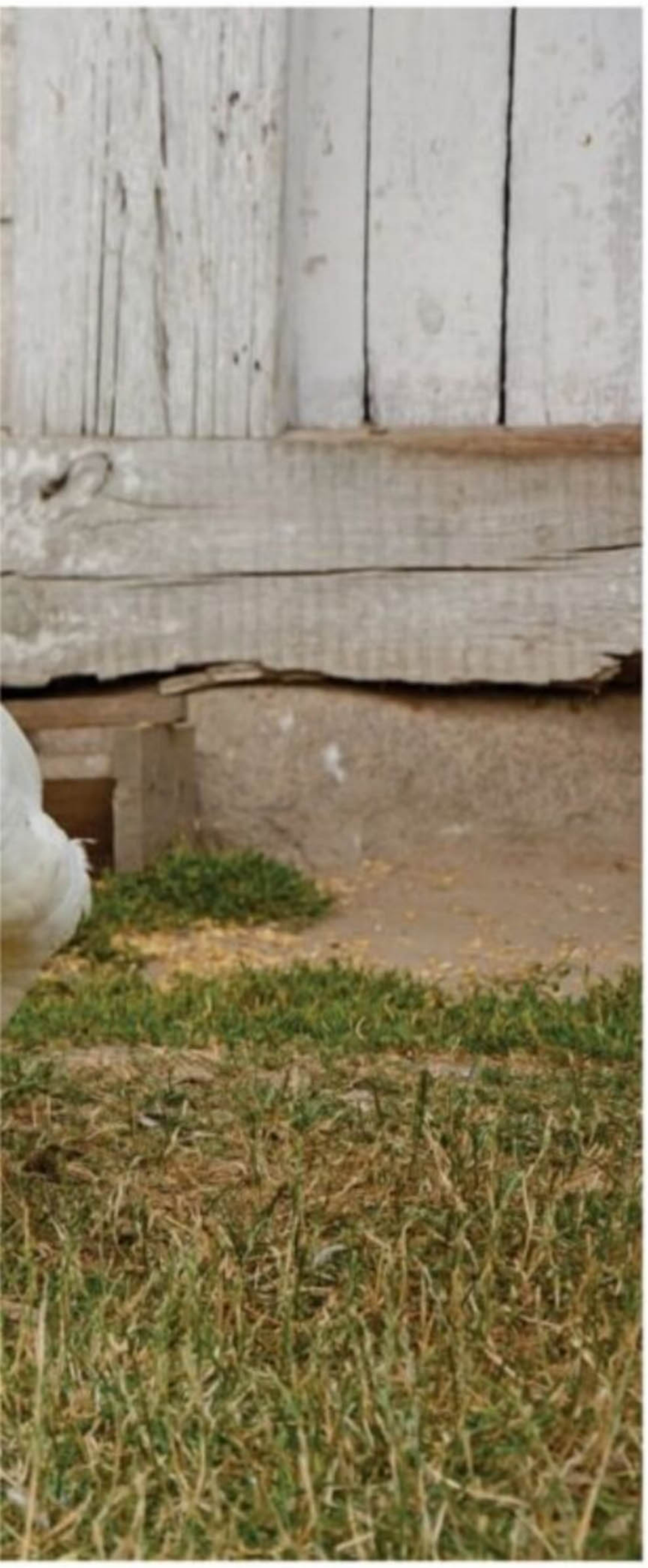
In many ways, turkeys can be easier to keep than chickens. They are docile, regal birds. They create tight social bonds, and they are fairly intelligent.

**PROS**

Turkeys are generally cleaner than chickens due to their need to scratch less. They make great meat birds—and not just for holidays—and they have good personalities overall. They tend to engage in less conflict than chickens. Additionally, turkeys can add a splash of color and sophistication to your barnyard or backyard.

**CONS**

Turkey poults are extremely fragile. They need to be kept away from drafts and dampness, and if raised



with other birds, they can be easily bullied by others. They also need more space to grow, are more inclined to disease, and, because they are a larger bird, require more feed. Additionally, it is highly recommended to pen turkeys up away from any other poultry due to their more fragile health. They can also be vectors of diseases such as Blackhead disease (histomoniasis) and avian flu.

## GEESE

If you ever wanted a pet bird that doubles as your homestead's sentinel, then geese might be perfect for you.

**PROS**

Geese are hardy and thrive in harsh and even extreme weather conditions. Like ducks, they are disease-resistant. Geese will often imprint on their keepers and follow them around like dogs. They are also long-lived, living anywhere from 10 to 20 years or more. Geese can function as natural weeders and will usually find ways of feeding themselves if allowed to forage, cutting down on the feed bill. They are easy to accommodate, needing only a minimal shelter, they bond well with people (despite their reputations), and can be kept as watchdogs.

**CONS**

Like ducks, geese are loud and can go on alert very quickly. Boisterous children can upset geese and motivate them to chase or even bite them, so you need to monitor such encounters. Additionally, geese must be secured so large predators, the No. 1 killer of geese, can't reach them. You should also keep more than one, as they thrive in a group. Like ducks, they are extremely messy, so the more geese, the more mess.

## QUAILS

Quails are small and, as a result, don't smell as much or make quite as much noise as other poultry, making them a better choice in more urban living conditions. You can hatch and raise a lot of them in extremely small spaces.

**PROS**

Like ducks, quail grow fast, need little space to grow and develop, and, at least when younger, don't have as strong an odor as other poultry. They don't consume as much feed as larger birds, and, if you choose to incubate eggs, you can fit a larger number of their smaller eggs in an incubator. Additionally, many people are interested in quails for their eggs due to the eggs being small and lighter in calories.

**CONS**

Quail can be loud and extremely messy, scratching constantly at their food and kicking it everywhere. They produce a lot of dust, which can be problematic for some keepers. They are also surprisingly aggressive and have a reputation for cannibalism, even if they are fed well and regularly. Also, you cannot free-range

Turkeys are a bit more intelligent than you might think.

quail. They must be kept in mostly indoor conditions and fed a strictly controlled diet for best results.

## GUINEA FOWL

Guinea fowl often have a reputation as the hardest poultry to keep alive (and to keep around), but they hold the absolute world champion award for consuming ticks. In a changing world where tick infestation is becoming a growing concern for rural homesteaders, sometimes leading to Lyme disease, a small flock of guinea fowl may be the perfect accompaniment to your collection of birds.

Guinea fowl aren't easy to keep, but they're worth the work.

**PROS**

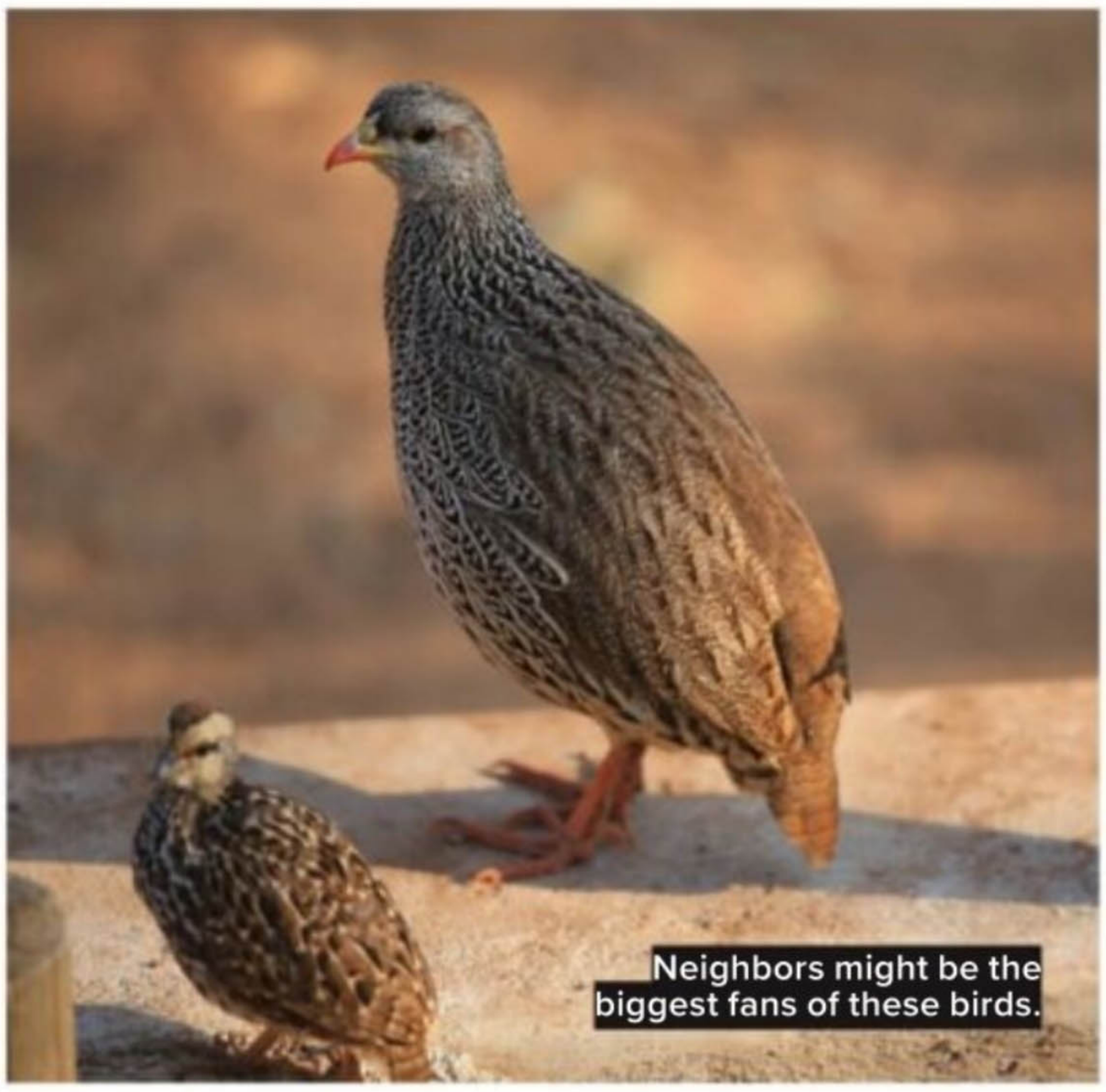
Besides ticks, guinea fowl can keep your garden and property free of pests, and without disturbing most of your plants. They are also brave (some will say stupid) birds who will take care of many species of

Geese will often follow their owner around, somewhat like dogs will.

snakes for you. Guineas are usually amicable and will fit in with your flock fairly easily, and without bullying other birds. Additionally, as meat birds, guinea will provide more lean meat per pound of bird than chickens will, and some people consider them a delicacy.

**CONS**

Guineas can remain problematically feral even if raised within a flock of other birds, and many will choose to roost in trees or atop structures instead of going into their shelter at night, leading them to being picked off by predators. They also tend to wander far and wide, which can be an issue if they wind up in places where they aren't welcomed or shouldn't be. When they lay, which is seasonal, they often hide their eggs. Like ducks, they are extremely loud birds, and if you have close neighbors, they may not appreciate the constant racket.



Neighbors might be the biggest fans of these birds.

Speckled eggs are a nice change of pace from the boring whites and tans.

## THE BEST TYPE OF BIRD

When choosing birds for your flock, it's always a good idea to consider the many factors that can affect your success as a poultry keeper, including the space you have available, the hardiness of the species, environmental factors like your particular region's weather extremes and the overall cost of keep.

Keeping poultry can be both exciting and financially rewarding when you do your homework first. Although there are risks and rewards for every species, exploring different options for a successful poultry farming venture might just be your next big adventure.

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## EGGSACTLY THE BREED YOU NEED

If your main goal in keeping poultry is egg production, either for consumption or hatching, consider researching different breeds of each poultry species before investing. Additionally, some, like heritage breeds, are hardier than more modern breeds and crosses. Here the most recommended type of bird for "eggcellent" egg production.

- **Chickens**
  Rhode Island Red, White Leghorn, Black Australorp, Production Red, Ameraucana, Buff Orpington

- **Ducks**
  Khaki Campbell, Runner, Buff Orpington, Pekin

- **Turkeys**
  Bourbon Red, Royal Palm, Beltsville White, Bronze

- **Geese**
  African, Chinese, Embden, Standard Toulouse, American Buff

- **Quail**
  Coturnix, Pharaoh

- **Guinea Fowl**
  Pearl, White, Lavender

# YEAST AND YOU

## Yeast in the homestead kitchen

ANGELINE HAWKES

It's easy enough to buy in stores these days, but that wasn't always the case.

**WHO DOESN'T LOVE THE AROMA OF FRESHLY BAKED BREAD? IT S A SCENT THAT'S COMFORTING AND MOUTHWATERING. YEAST IS AN IMPORTANT COMPONENT OF BAKING, AND LEARNING HOW TO REPLACE IT WHEN THE GROCERY STORE VARIETY IS UNAVAILABLE CAN MAKE SURE YOU KEEP ON COOKIN'!**

## WHAT IS YEAST?

Most people know yeast is used in baking bread and making beer, but what exactly is yeast? Yeast (Saccharomyces cerevisiae, which translates to "sweet fungi of beer") is a single-cell organism that is a part of the fungi kingdom. There are at least 1,500 species of yeast identified by scientists. Yeast is one of the oldest identified organisms and has been utilized for thousands of years in baking and in brewing (beer and mead, among others). Yeast is labeled baker's yeast or brewer's yeast.

Fresh yeast is sold in sealed blocks that are moist, firm and creamy in color.

## YEAST AND HISTORY

Archaeologists have documented the use of yeast in baking and in brewing of alcoholic beverages from over 5,000-year-old Egyptian hieroglyphics. Both leavened and unleavened bread are discussed in the Bible. Other ancient cultures such as Babylon, China and Sumeria also have yielded proof of the use of yeast in baking and brewing. It wasn't until the late 1600s, with the invention of the microscope, that yeast was noted to be a living organism by Antoni van Leeuwenhoek. Yeast would have to wait until 1859 to be named by J.H. van den Broek, a professor at the Military School of Utrecht in the Netherlands. Before being labeled as "yeast," the organism was called "gist," which in Late Old English meant "dregs or dirt." Yeast prior to 1771 was mostly the foam from starter dough. After this date, people learned how to mix the foaming yeast with wood ash and let it dry in the sun. Dried yeast was sold in 1822 in Vienna.

**YEAST HAS BEEN IN USE IN KITCHENS AROUND THE WORLD FOR OVER 5,000 YEARS!**

## THE ROLE OF YEAST

Yeast cells need food for reproduction. This food comes from sugars, fructose, glucose or maltrose (beet or sugar cane, fruit, honey, maple syrup, molasses or white sugar). Before man learned how to save starter dough or dry yeast, it's believed yeast was more of a contaminant that occurred naturally in flour or milk. Yeast digests sugars, converting them into alcohol and carbon dioxide, which is the fermentation process. Oxygen is necessary for the yeast to continue to reproduce. Yeast makes bread rise to its fluffy glory by fermenting the sugars and starches (breaking them down into alcohol and acids) from the bread dough, and because the carbon dioxide cannot escape from the stretchy dough, the gas begins expanding, causing little air pockets that inflate the dough, making it rise. During fermentation, the ethyl alcohol produced by the yeast gives beverages and bread that yeasty, breadlike aroma and flavor.

Sourdough starter can be kept in the refrigerator until it's needed.

## TYPES OF YEAST

There are three main types of yeast used in the kitchen: active dry yeast, fresh yeast and instant yeast. One packet of commercially produced active dry yeast equals about 2 teaspoons. One packet of active dry yeast equals 1/3 block (0.6 ounces) of fresh yeast. One variation of yeast may be substituted with another in a recipe. Active dry yeast and instant yeast may be used interchangeably in a 1:1 ratio. Active dry yeast will cause a product to rise at a slower rate, however, so about 20 minutes should be added to the rise time of the recipe. When using a bread machine, don't use instant yeast because the machine causes dough to rise faster due to higher temperatures. Using instant yeast in a bread machine will make the dough over-rise, and the bread loaf will collapse in the center as it bakes.

WHEN WE TALK ABOUT YEAST, THIS IS WHAT IS MOST FAMILIAR TO MANY OF US!

Active dry yeast is sold in most grocery stores.

**Active Dry Yeast (Also Called Granular Yeast)**
Active dry yeast keeps longer than fresh yeast. Active dry yeast is manufactured by drying live yeast cells at very high temperatures, which results in killing about 70% of the live cells. The dead cells form barriers around the surviving cells. This is why yeast must be "proofed" by dissolving the packet or measurement of dry yeast in warm water. This frees the live yeast cells from the dead cells.

**Fresh Yeast**
Fresh yeast is sold in sealed blocks that are moist, firm and creamy in color. It is sometimes called cake yeast, compressed yeast, crumbled yeast or wet yeast. If the block of yeast appears dry, darker in color or crumbles, it probably isn't good. Fresh yeast must be refrigerated and used within the use-by date marked on the package.

**Instant Yeast**
Instant yeast is often called easy yeast. It's produced in a granule that's smaller than active dry yeast granules, so it dissolves faster. This ability to dissolve quicker allows the baker to skip the proofing stage and mix instant yeast directly into the recipe's ingredients.

## TESTING YEAST

Because yeast are living organisms, they can die. If the yeast has died, it will no longer cause baked goods to rise, resulting in hard bread loaves or a flat, dense cake. Yeast can die from improper storage, age or from being proofed in water hotter than 139 F. To test the condition of yeast, proof the yeast in water as called for in the recipe, or, in a measuring cup, add 2 teaspoons of yeast to ½ cup warm water (about 110 F) and add ½ teaspoon of sugar. Stir it and wait about 15 minutes. If the yeast is alive, foam will develop and rise to about the 1 cup measurement mark on the cup. If the foam isn't exactly at that marker, don't worry, it's probably still good. If foam doesn't develop or rise at all, however, the yeast is no longer active and should be discarded.

## STORAGE

Store yeast in the refrigerator or freezer in an airtight container for up to two years. A dark, cool place such as a pantry or cupboard can also be utilized, but it has a shorter shelf life of about six months to one year. Manufacturers mark yeast with a use-by or expiration date. If the yeast is kept in the freezer or refrigerator, yeast will survive much longer than these dates. When using cold storage yeast in a recipe, remove it from the refrigerator or freezer and let it come to room temperature (about 45 minutes) before adding it to the ingredients.

## FLOUR AND WATER METHOD

Before yeast was sold to the public, cooks relied on wild yeast. Flour and water were mixed in equal parts, placed into the open air within a crock, and allowed to sit for three to six days. In this way, wild yeast was "caught" and the dough would become bubbly, giving off a yeasty alcoholic scent. The same process can be used in today's modern times. In a bowl, mix 2 cups of flour and 2 cups of nonchlorinated (bottled) water. Some people prefer to drape a loose cloth or cheesecloth over the bowl, but it's OK to leave the bowl uncovered. Let the bowl sit on the counter for three days. The dough should turn bubbly. Use 1 cup starter dough to replace 1 packet of commercially produced yeast. When you remove starter dough for use in a recipe, you must replace it with equal parts water and flour. This is called feeding the dough, so that it will be ready for next batch of bread.

## FRUIT AND WATER METHOD

Add 2 ¼ cups nonchlorinated water to a bottle (about 32 ounces, glass or plastic) along with ¼ cup white sugar and a small handful of dried fruit (raisins, prunes, dates, cherries or whatever you have that doesn't contain sulfur dioxide). Keep the bottle sealed at room temperature (about 78 F). After about five days the liquid should have foam on the surface. Strain the fruit from the liquid, saving the liquid. You must strain it once you see foam/bubbles or the gases building within the bottle may cause the bottle to explode. This is yeast water. In a recipe, substitute ¾ cup plus 1 tablespoon of yeast water for other liquids called for, and then add the remaining measurement of liquids to fulfill the recipe's requirements. If the recipe calls for less liquid than ¾ cup plus 1 tablespoon, use the amount of yeast water equal to the liquid the recipe specifies. Bread made from yeast water will not rise as high as with other methods.

## BAKING UNLEAVENED BREAD

Unleavened bread is eaten in many parts of the world and has been eaten globally for thousands of years. Depending on the region, this flat bread can be called tortillas, unleavened bread or ashcake. No matter the name, the bread is the same: flat bread made with flour, water and no yeast. It can be baked in an oven, over a fire or on hot coals or rocks. Since there's no yeast, there is no rise time involved. This mild-tasting bread lends itself well to being dipped into sauces or meats and is often used in lieu of an eating utensil.

**Ingredients**

- 2 cups flour (all-purpose, wheat or combo)
- 1 teaspoon salt (optional)
- 2 tablespoons olive oil or melted butter
- ¾ cup water or milk

**Directions**

Preheat the oven to 450 F. In a medium bowl, stir together the flour, salt and oil, then stir in the milk. Mix well and then form the dough into a ball. Roll or press the ball into a flat loaf. Grease a baking sheet and place the flat loaf onto the sheet. Bake for 15 to 20 minutes or until the edges are slightly browned.

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Angeline Hawkes writes for *Backwoods Survival Guide*, *Backwoods Home Magazine*, *Prepper Survival Guide*, *Self-Reliance Magazine* and others. Visit her YouTube channel, Canterbury Trails Farm: youtube.com/c/CanterburyTrailsFarm

THERE JUST ISN'T MUCH BETTER THAN THE SMELL OF FRESH, HOME-BAKED BREAD WAFTING THROUGH THE HOUSE!

Every homesteader should learn at least one or two good bread recipes and practice them until proficient.

USE IT UP BEFORE IT GETS FREEZER BURNED OR OTHERWISE DAMAGED!

Most of us are probably guilty of letting things sit in the freezer too long.

# CLEAN OUT YOUR FREEZER

Prepare for the new harvest

BY DANA BENNER

**IT'S ABOUT MIDWAY THROUGH SEPTEMBER AND I FIND MYSELF DOING THE ANNUAL RITUAL OF CLEANING OUT MY FREEZERS. SOME PEOPLE DO NOT DO THIS CHORE–AND BELIEVE ME IT IS A CHORE, AS I HAVE MULTIPLE FREEZERS. WHY DO I DO THIS SO OFTEN?**

My answer is usually, "Why don't you do it *more* often?" There are two very good reasons why I clean out my freezers annually. First, is that I want my family to eat healthy, safe food. The second reason is that I need room for this year's harvest.

## HEALTH OF MY FAMILY

My parents, while I love them to this day, never seemed to ever clean out their freezers. Maybe it was because they grew up during the Great Depression and didn't have much, so they thought they needed to keep everything. I don't know, but when they passed away, the things I found in their freezer were beyond belief. They were of the mind that as long as the food stayed frozen then it would be safe to eat indefinitely. Nothing could be further from the truth. Freezing food, just like any other form of food storage, is only a relatively short-term endeavor.

According to foodsafety.gov, theoretically, anything kept at 0 F or below will keep indefinitely, but what that food will taste or look like is another story. Technically, that woolly mammoth found frozen in Siberia has been preserved, but I have no desire to hack off a steak and throw it on the grill. The same goes for that errant package of venison or beef in the back of the freezer from sometime in the past.

## LABEL IT

When I put things into my freezer, I always label them to indicate what it is and the date. This way when I pull things out, I can see what it is and how long it has been in the freezer. When preparing meals, I always use the oldest first. Despite this, occasionally a package of grouse, turkey or deer can be left behind. It is these leftovers that end up in the recipes that are included in this article. The same goes for any vegetables and fruit that may happen to be in there. My rule of thumb is if it is older than a year, or close to it, it gets pulled out and used.

## MAKE ROOM FOR MORE

As noble as health reasons are, the main reason I clean out the freezer is to make room for more. Some of the items I need to make more room for includes fish I harvest before the season ends, deer, turkey and upland birds I harvest, as well as that local beef I purchase from my friend Wayne LeClair at Rocky Meadow Farm. There are also the vegetables that I harvest from my garden. It all has to go somewhere, and that somewhere includes my freezers.

## DON'T THROW IT AWAY

I hate to waste food of any kind, so I make every effort to use the stuff coming out of my freezer. This is the time of the year that I make

DO A GOOD CLEAN-OUT AT LEAST ANNUALLY, BUT IDEALLY A COUPLE OF TIMES A YEAR!

With chest freezers, items can sometimes get hidden at the very bottom, so dig down to see what's all there.

my chili, stews, and soups. I would say that about 90% of the food in the freezer ends up in these dishes. Last year's turkey (if I haven't already eaten it) will be cooked and the bones will be made into soup stock. This stock will likely end up back in the freezer for later use.

What follows are a few of my recipes for the food removed from the freezer clean-out.

## VENISON STEW

**Ingredients**

- 1 tablespoon olive oil
- 2 pounds stew venison
- 22 ounces stout or brown ale
- 2 cups beef broth or water
- 1 teaspoon Worcestershire sauce
- 1 garlic clove, chopped
- 1 medium onion, chopped
- 4 medium potatoes, cubed
- 6 cups chopped carrots
- Salt and pepper to taste

**Directions**

- In a medium pot (I like to use cast iron) over medium-high heat, add the oil. Once the oil is up to temperature, add the meat and brown on all sides.

Using some of the freezer meat for stews and soups ensures it'll be tender.

- Once the meat is browned add stout, broth, Worcestershire sauce, garlic and onion to the pot. Bring to boil and then reduce to a simmer. Cover pot and simmer for 2 hours, stirring occasionally. Add water as needed.
- At the end of the 2 hours, add the potatoes, carrots, and salt and pepper to taste. Raise heat to medium and cover the pot. Let cook for another 30 minutes or until the vegetables are cooked, but not soft.

## VENISON CHILI

**Ingredients**

- 4 tablespoons olive or vegetable oil
- 1 yellow onion, chopped
- 1 red bell pepper, chopped
- 1 green bell pepper, chopped
- 1 Anaheim pepper, chopped
- 4 jalapeno peppers, chopped (remove seeds if desired)
- 4 garlic cloves, minced
- 2-2 ½ pounds venison, cubed

- ¼ cup Worcestershire sauce
- 1 (12-ounce) can Lost River beer or other blonde ale
- 3 cups chopped tomatoes
- 2 tablespoons chile powder
- 2 tablespoons ground cumin
- 3 tablespoons chipotle in adobo with peppers
- 1 ½ teaspoons ground paprika
- ½ teaspoons dried oregano
- 1 pound parboiled red kidney beans

**Directions**

- I cook my chili in my Lodge cast-iron Dutch oven. In the Dutch oven over medium heat, add the oil. When the oil is up to temperature, stir in the onions, all varieties of peppers and the garlic. As they cook down, add the venison, allowing the flavors to mix while the meat browns. Allow this to cook for about 5 minutes, stirring often.

- Stir in the Worcestershire sauce and beer and allow it to cook for about 3 minutes. At this point stir in the tomatoes and all the spices.

- Bring mixture to a boil and then reduce heat back to medium-low. Cover the Dutch oven and allow the mixture to simmer for about 90 minutes, stirring often. After about 30 minutes, taste the chili. If it is not spicy enough, add more chile powder and chipotle in adobo. At the end of 90 minutes, stir in the beans and allow to simmer for another 30 minutes. The more the chili cooks down, the hotter it gets.

MANY FRUIT PIE RECIPES END UP JUST BEING WHATEVER YOU HAVE ON HAND!

While homemade crusts are usually best, store-bought ones are just fine.

## RHUBARB/BERRY PIE

This recipe is a version of one my mother used for many years. The big difference is that she used strictly rhubarb in most of her pies. When she added anything, it was strawberries. As we didn't grow strawberries, she had to buy them, if we could afford them. Most times we couldn't.

Throughout the year I harvest all sorts of berries as they become available. This means that my berries in this recipe may include small wild strawberries, cultivated strawberries from my small patch, wild raspberries, blackberries and even blueberries. All of the rhubarb and berries used are what I had stored away in the freezer, and in some years, that could mean a lot of pies.

**Ingredients**

- 1 ½ cup sugar
- ¼ cup flour
- ¼ teaspoon ground nutmeg
- 3 cups rhubarb, cut into ¼- to ½-inch pieces
- 1 cup berries
- 1 prepared pie crust (bottom and top), or 1 recipe of your favorite homemade pie crust
- 1 tablespoon butter

**Directions**

- In a large mixing bowl, add the sugar, flour and nutmeg. Using a wooden spoon or spatula, mix together well. Stir in the rhubarb and berries and mix it all together. Allow to sit for 15 to 20 minutes.
- Meanwhile, preheat the oven to 400 F. On a lightly floured work surface, roll out the prepared or homemade pie crust. In a 9-inch pie plate, place the bottom crust and smooth it out.
- Transfer the pie filling to the pastry-lined pie plate. Top with butter and place the top crust over the filling. Use a fork to press the edges together. Place in the oven; bake for about 40 minutes or until done.

Cleaning out your freezer(s) can be a tedious chore, but it is one that has to be done. Just as you rotate and use those foods that you have canned, it is equally important to pull older items from your freezer and use them—if for no other reason than to make room for more.

Try a simple cinnamon-crumb topping instead of a pastry crust for variety.

## HOW LONG DOES IT LAST?

Despite the fact that if kept frozen, items will last forever, whether they are edible is another question. According to various federal guidelines, the following applies:

- Fresh meat (beef, venison, bison, elk, etc.) will last up to 12 months
- Fresh poultry (chicken, turkey, geese, ducks, grouse, etc.) will last up to 12 months
- Fish will last anywhere from 3 to 12 months depending on its fat content. The more fat, the less time they will last in the freezer.
- Vegetables and fruit will last about 12 months, if they are frozen immediately after picking.

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Dana Benner lives in New Hampshire. He has been writing about all aspects of the outdoors, survival and self-sufficient living for 35 years. His work appears in numerous publications.

## CHAPTER 3

# DIY PROJECTS

WITH SOME BASIC KNOWLEDGE AND A BIT OF ELBOW GREASE, YOU CAN DO ALMOST ANYTHING.

THERE ARE MANY SKILLS THAT CAN BE TAUGHT TO THE NEXT GENERATION RIGHT IN THE YARD!

When you make it a fun exercise, rather than a chore, kids tend to retain the knowledge better.

# BACKYARD SURVIVAL CAMP

A backup for your home, just in case

BY CHRISTOPHER NYERGES

THERE ARE SEVERAL DISTINCT BENEFITS TO CREATING A SURVIVAL CAMP RIGHT IN YOUR OWN BACKYARD. FOR EXAMPLE, YOU CAN USE IT TO TEACH YOUR CHILDREN SURVIVAL SKILLS WITHOUT HAVING TO TAKE ALL THE EXTRA TIME OF TRAVELING TO A REMOTE CAMP.

If you take the time to listen to their ideas, you might be surprised with what they suggest.

In the comfort of your own backyard, you can teach your children essential skills that will help them throughout their lives—and they'll have a great time learning it all.

Of course, if you do experience an emergency where you cannot occupy your house, you should also be able to carry on somewhat normally in your own backyard camp.

## WHAT IS THIS CAMP?

Think of it this way. Your home was just ravaged by an earthquake, and it's unlivable. There's no power, and the gas is out. Evacuation to somewhere else might be a possibility—but you might not be able to do so right away. You'll be living in the backyard camp that you set up so long ago.

You're going to need everything that you'd need if you were camping in the woods, and it all needs to be self-sustaining. You'll need a shelter, a toilet, a way to cook, a way to wash, and a supply of water, food and basic hygiene gear. You'll need some tools, too.

If you're any sort of camper or prepper, you probably already have all the elements of this camp here and there in your garage, closets and storage areas. But now we're going to set it all up so you can "camp" in your backyard, alone or with family and children, for a short while—or longer.

Let's look at each element of the camp.

## SHELTER

This can just be a pop-up tent that you purchased at a backpacking store. Even if you don't plan to keep it up all the time, find a spot that is level, and maybe shaded.

If a nylon tent is out in the sun for prolonged periods of time, it degrades and falls apart in a year or so. The reason most tents last for years is because they are only used for a few days at a time, and then they are packed up and stored. But if you're going to keep the tent up more or less regularly, you'll want to keep it out of direct sun, and possibly also treat the fabric with one of various products on the market to protect it from the UV rays of the sun.

## COOKING

Cooking outdoors is easy on just a grill set on rocks, and you also need to have a supply of firewood to burn. Firewood is easy to come by, and it needn't be large. Small twigs start more easily, and if you're just heating a small meal, a handful is usually enough. Keep your firewood off the ground, and covered from the rain.

But cooking on an open fire can get old. You might consider having an old barbecue handy, as well as a hibachi. Both are easy to cook on, easy to store and require minimal fuel.

Maybe you want something more like your kitchen stove. I'd suggest a Coleman camping stove, which typically has two burners and requires a can of fuel. These are durable, long-lasting and easy to operate.

A solar oven is also viable most of the year for much of the country. I use two styles. One is an insulated oven called the Sun Oven, and other is a dish oven called the Sol Source. Sol Source is no longer available in the U.S., but there are many other dish-style solar ovens available online at various stores.

## CLEANLINESS

In the past, we've found old sinks discarded on the street. We've built frames to support them, and used them to wash dishes, clothes, or our hands and bodies. If you have space, this is worth having in the backyard.

**THE IDEA IS TWOFOLD. FIRST, TEACH YOUNGSTERS VALUABLE SKILLS. SECOND, BUILD A PLACE WHERE YOU CAN TAKE SHELTER IN AN EMERGENCY.**

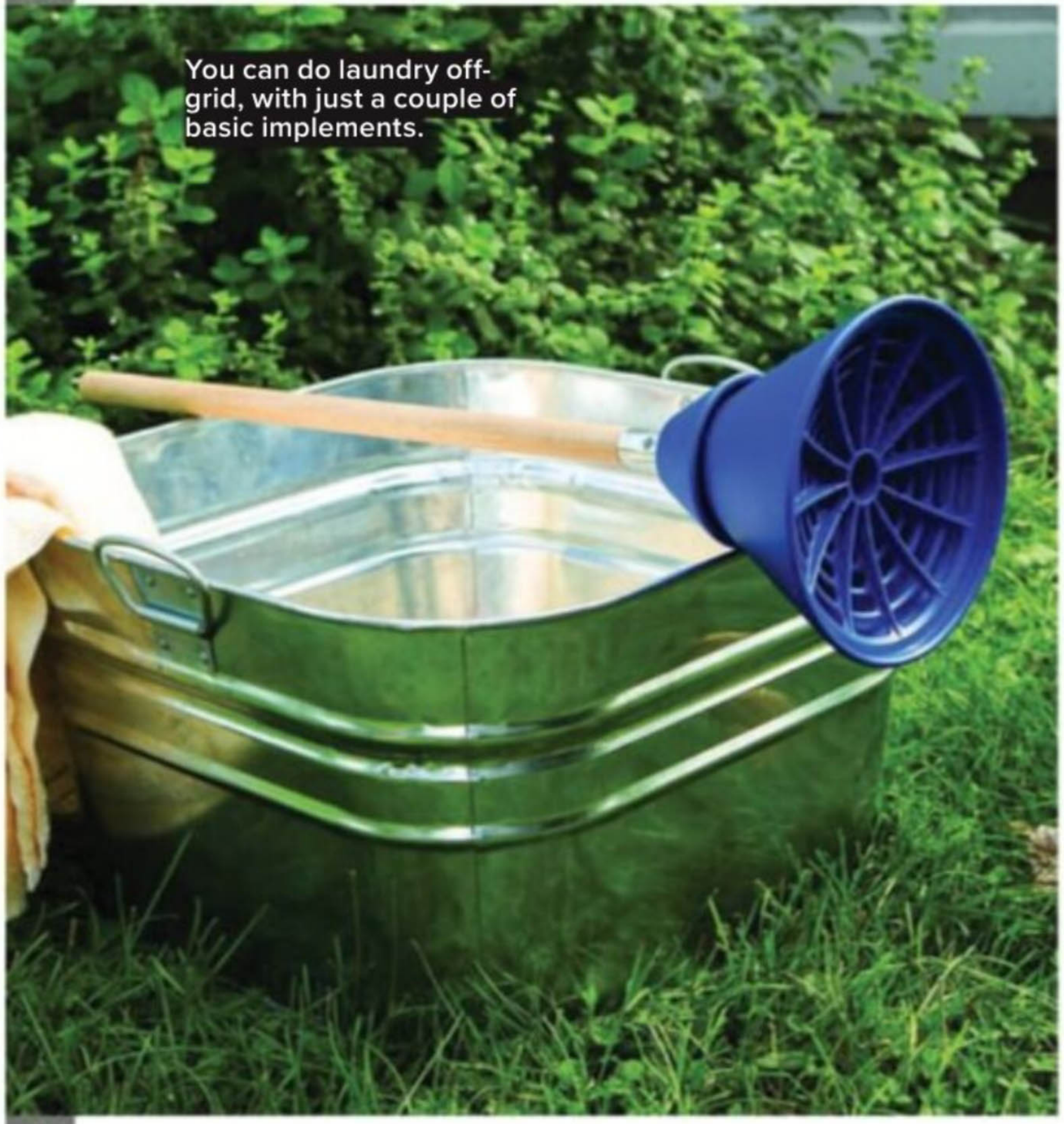
Making fire and cooking outdoors are always of interest to young and old.

Another necessity is a shower. In the past, we've heated water in a can, and then taken a "shower" with a half-gallon of hot water and a wash rag.

However, solar showers are sold everywhere, and they are highly recommended. I would not leave home for a camping trip without one, and I always keep one at home for possible backyard use. These are heavy-duty plastic bags which you fill, place in the sun for a few hours to heat the water, and then hang up to take your shower. They come in various sizes, and I think the 2.5 gallon is the ideal size in terms of weight and time it takes to heat the water.

I like to be clean, so I like my bath or shower–daily, if possible. When I lived in Mexico, I stayed with a family whose home had a private inner courtyard. When I wanted to take a shower, they put some wood under the wood-fired water heater about 45 minutes before my shower. Otherwise, this novel water heater was plumbed and hot water came out when I turned on the shower head.

Back home, I experimented with this. I took an old water heater tank (minus the shell) and propped it up on a 55-gallon drum and plumbed it so it was full of water and always under pressure. It was painted black. By the end of a summer day, I could turn on the spigot and take a hot bath or shower outside. Of course, the water didn't get that hot in the winter, so with bit more adapting, I was able to build a little fire under the water heater tank and take a hot shower outdoors in winter.


You can do laundry off-grid, with just a couple of basic implements.

## TOILET

There are several possibilities for a toilet in your survival camp. The easiest is just a hole in the ground that you cover with some soil after each use. Location is critical, for privacy and other concerns, such as underground water supply. The details of how you set up, use and clean an outdoor toilet will depend on several factors, including the need for privacy, and the need to avoid the glances of curious neighbors.

A bucket with a toilet seat cover is a bit better, and this allows you to move it about as necessary, and then dump out and bury the contents.

These days, camping and backpacking stores sell a variety of camping and emergency toilets which are useful for car-camping or camping in the backyard. These are worth considering. Don't forget to stock up on some extra toilet paper.

Fair warning, though: Using a backyard privy is probably against the health codes of most cities.

Little privacy closets are now available for the camping and backpacking crowd and they pack up quite small. These are definitely worth purchasing! But if your budget is tight, you can strategically drape sheets over rope to create a privacy screen.

## STORAGE

You'll want a place away from your house where you can securely store dried foods, extra water, cooking gear, toilet paper, miscellaneous tools, soap, towels, clothing—all the stuff that you need in day-to-day life. If you have a little shed out back, that's excellent. If you don't, you can build one or just purchase a lockable storage bin from one of the big-box hardware stores.

A backyard survival camp has a lot of benefits. It allows you the luxury of testing your gear and your skills, and you might actually have to use it in a real emergency. And if you have children, you'll find that they will delight in "camping" in the backyard, learning how to deal with emergencies along the way.

You might make something very temporary—or more permanent, depending on your particular situation in terms of yard size, visibility to neighbors and other factors.

While most tents aren't truly suited for semipermanent installation, with some care and maintenance they'll last quite a while.

## CAMP NIGHT

A great advantage of a backyard camp is that it's a wonderful teaching opportunity for young children as well as teens. Let Friday nights be Camp Night, where you make a fire and cook food, and then wash outside with water that you warmed on the fire. Let the children sleep in the tent that they set up. Invite their friends over and let everyone know that the rule is that no one can go inside the house until the morning. Use the emergency toilet. Set up a lantern and tell stories.

Yes, this might be challenging for some children, but I guarantee you that some will love it and will gain valuable experience.

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Christopher Nyerges is author of *How to Survive Anywhere*, *Urban Survival Guide*, *Extreme Simplicity* and other books. He teaches classes on survival skills at Pasadena City College and online. He can be reached at schoolofself-reliance.com.

Reducing caustic chemical use will help to preserve your health—as well as the condition of your belongings.

YOU CAN GET IT ALL DONE WITH JUST A FEW SIMPLE INGREDIENTS AT HOME!

# CLEAN WITHOUT CHEMICALS

## Homemade is safer and works just as well

BY ANGELINE HAWKES

**THERE ARE MANY REASONS TO MAKE YOUR OWN HOUSEHOLD CLEANERS, AMONG THEM SHRINKING BOTTLE SIZES AND HIGH PRICES OF STORE-BOUGHT CLEANERS, AND THE POTENTIAL TOXICITY OF INGREDIENTS. WHATEVER YOUR REASON, DO IT YOURSELF HOUSEHOLD CLEANERS ARE AS EFFECTIVE AS THE GREEN, BLUE, OR PURPLE CONCOCTIONS PURCHASED OFF THE SHELF.**

Store-bought cleaners can include toxic substances. These cleaners can cause irritation of the eyes, lungs, nasal passages, skin and throat. Many cause headaches or trigger allergic reactions to the fragrances used in the cleaners. Volatile organic compounds, or VOCs, are a concern to experts. A VOC is a chemical that vaporizes at room temperature. Many aerosol sprays, such as air fresheners and oven cleaners, contain VOCs.

In the United States, manufacturers don't have to list all of a product's ingredients. There's a growing issue with products being labeled "green" or "eco-friendly" while still having toxic ingredients. The Environmental Protection Agency is helping consumers root out the toxic offenders. The agency has a program called SaferChoice with a website that allows consumers to input a product name to see if the contents are safe. To make the safe list, a product must meet the EPA's criteria for environmental and human safety. These criteria concentrate on aquatic toxicity, carcinogenicity, developmental toxicity, environmental toxicity, reproductive/endocrine toxicity and others. To see if your household cleaner is safe, search here: epa.gov/saferchoice/products

## SOAP AND WATER

Don't discount good old soap and water. There's soap and then there's anti-bacterial soap. Anti-bacterial soap has an added chemical called triclosan that disrupts bacteria production. Regular soap doesn't have this chemical, but still kills germs with its lather. Germs are trapped in bubbles called micelles that prohibit germs and other substances from adhering to surfaces, so the bacteria washes away. In many DIY cleaner or laundry soap recipes, the main ingredient is an unscented, vegetable-based soap called Castile soap. This soap was originally made from olive oil in the Castile region of Spain. Vegetable-based soap contains no animal fat, is biodegradable, noncorrosive, and nontoxic to humans and pets. Many brands of soap available on the market are pure vegetable soap and fragrance-free and can be grated, shaved, chopped and melted for use in laundry soaps, hand soaps and household cleaners.

You can add different things to soap to change the scent.

## VINEGAR

For centuries, vinegar has been used for cleaning. Vinegar is effective because it's an acid. Vinegar gets its name from the French word "vinaigre" (meaning "sour wine"). Vinegar is the result of fermenting sugar to ethanol (alcohol) and then to acetic acid. Acetic acid is an organic compound that gives off the telltale vinegar odor and taste. It's nontoxic and breaks down bacteria, dirt, grease, mildew, mineral deposits, mold and soap scum. White distilled vinegar with a 5% acidity level is best for cleaning and won't stain surfaces. To make a vinegar cleaning solution, mix 1 part water with 2 parts vinegar in a large jar or spray bottle. The odor of vinegar remains for about an hour, so if this offends you, add 6 drops of essential oil to the bottle. Consider stronger-scented oils like citrus, eucalyptus, lavender or peppermint. For a tough cleaning situation, spray undiluted vinegar onto the problem and let it sit for about 15 minutes before scrubbing and rinsing with hot water. Due to the acidic nature of vinegar, it's not an all-surface cleaner. Do not use vinegar solutions on aluminum, cast iron, electronic device screens, granite, hardwoods (such as floors), limestone, marble or waxed furniture.

You can find brand-new spray bottles at your local dollar store as well as online.

## SALT

Instead of reaching for abrasive store cleaners for stains in tubs or sinks, try table salt. Salt is naturally antibacterial and antiseptic and has been used to scrub pots and utensils, and clean wounds for centuries. Salt kills bacteria by dehydration, starving bacteria of water. However, salt cannot kill 100% of germs. Make a thick paste of salt and water and scrub stains and stuck debris. The absorbency of salt allows it to absorb spills for easier clean-up. For removing stains, apply salt/water paste to the stain, allow the paste to remain on the stain for 20 minutes, and then rinse with water. For added cleaning potency, add a couple teaspoons of vinegar to the paste. This mixture is particularly effective on mineral deposits on plumbing fixtures.

## BAKING SODA

Baking soda (sodium bicarbonate) is another nontoxic, abrasive cleaner. Baking soda is a salt that dissolves grease and dirt and can replace commercially produced scouring powders. Mix baking soda with water to

Baking soda is one of the handiest things to keep around when it comes to cleaning.

create a paste for scouring, or make a liquid cleaner for use in spray bottles by mixing 2 teaspoons baking soda, 4 teaspoons vinegar, 2 teaspoons liquid dish soap, 2 teaspoons lemon juice (bottled or fresh), and 3-4 cups water. Optional: Add 2 teaspoons of borax for an extra boost. Before using this liquid cleaner, shake the bottle to remix the ingredients. Add vinegar to baking soda/water paste to create a foaming paste for stubborn stains or dried/burned-on food. Use baking soda paste or liquid for cleaning dishes, microwaves, ovens, sinks, tubs, tile and toilets. It can be used to scrub machinery and tools that have grease buildup. Use a canning jar with holes poked in the lid as a shaker jar (or buy a shaker top) for this scouring powder recipe: 1 cup baking soda, 1 cup borax, 1 cup salt. Use it as you would any scouring powder. For a softer, creamy-type cleansing "lotion" for countertops, sinks and tubs, mix ¼ cup baking soda with enough liquid dish soap to make the soda creamy. This works like a liquid scouring powder.

## DIY THIEVES CLEANER

The legend behind the popular Thieves Cleaner solution of essential oils is rooted in the time of the Black Death. Four thieves, previously employed as perfumers, concocted a mixture of oils to use in their scheme. Smearing the oils over their bodies and clothes, the thieves then crept among graves and into the houses of the plague victims to rob the bodies of any treasures they contained. All good things come to an end, and the prospering body-robbing thieves were eventually caught. When it became evident the men knew a "magic" ointment that warded off sickness, the officials in charge proposed a deal: Give up the secret formula and the officials wouldn't burn the thieves alive. The four men, thinking they'd thwarted death once again, coughed up their secret recipe. The officials kept their word, and hung the men rather than burning them. This mixture is easy to mix into a concentrate and then dilute into spray bottles. The following concentrate contains oils that are anti-bacterial, antiviral, anti-fungal, antiseptic and antimicrobial. Oils may irritate skin and damage surfaces if used alone, so take caution while preparing the concentrate. Don't use on surfaces that can't tolerate vinegar.

### THIEVES CLEANER CONCENTRATE

- 40 drops or ¼ teaspoon plus 5 drops clove oil
- 35 drops or ¼ teaspoon lemon oil
- 25 drops or ¼ teaspoon cinnamon bark or cinnamon oil
- 15 drops or ¼ teaspoon eucalyptus oil
- 15 drops or ¼ teaspoon rosemary oil

To make the Thieves Cleaner, to a 16-ounce spray bottle, add
8 ounces water;
8 ounces white vinegar;
½ teaspoon of Thieves Cleaner Concentrate.

### ISOPROPYL ALCOHOL AND ESSENTIAL OIL MIXTURE

A 70% concentration of isopropyl alcohol (rubbing alcohol) is isopropyl alcohol diluted with 30% water. It will kill most bacteria, viruses and many fungi, as 60% or higher isopropyl alcohol will kill the common cold, influenza and coronaviruses. The Centers for Disease Control and Prevention recommends first cleaning an area or item to remove physical matter, and then disinfecting with alcohol. Alcohol can be further enhanced by adding anti-bacterial essential oils. Some anti-bacterial essential oils are: cinnamon, clove, eucalyptus, lavender, lemon, lemongrass, orange, oregano, peppermint, pine, tea tree and thyme. To make an alcohol and essential oil mixture, in a spray bottle, add 1 cup water, ½ cup isopropyl alcohol, 2 tablespoons liquid dish soap and 12 drops essential oils. Shake contents before use.

### CITRUS OILS AND JUICES

Citrus oils and juices have antiviral and anti-bacterial properties and smell great. The acidic juices/oils cut through solid particles, allowing them to wash away with liquids.

Lemon juice has been used for centuries to whiten and brighten everything from linens to countertops. Create a paste of salt, baking soda and lemon juice for tough stains, using it as a scouring powder.

Another natural, all-purpose cleaner is made from discarded citrus fruit peels: orange, lemon, lime and/or grapefruit.

As with all acidic cleaners, this cleaner shouldn't be used on anything that can't handle acid such as stone countertops, wood floors and furniture.

To make this solution, pack a quart (or larger jar) with citrus fruit peels. Cover the peels with white vinegar and screw on the lid. Store the jar in a room temperature location for two weeks. When the two weeks are up, strain the liquid from the peels. Compost the peels if desired. Mix the cleaning concentrate 1:1 with distilled water and pour it into spray bottles.

> **IF YOU KEEP THE NECESSARY INGREDIENTS ON HAND, YOU CAN MIX UP JUST WHAT YOU NEED WHEN YOU NEED IT.**

## SUPPLIES FOR GETTING STARTED

If you've decided to dive into the do-it-yourself cleaner world, know that home-crafted cleansers often contain things you may already have in your pantry or refrigerator. The items are common and can be purchased at grocery stores and from online retailers. Here's a short list of things that are handy to have on the shelf before mixing up a batch of cleaner:

- Spray bottles (reuse clean empty bottles or buy glass bottles; 16 ounces is a good size)
- Canning jars
- Shaker tops and jar rings (make a shaker top by punching holes in a cardboard circle or an old canning lid)
- Droppers
- Measuring spoons and cups
- White vinegar
- Unscented bar soap
- Liquid dish soap
- Baking soda
- Table salt
- Isopropyl alcohol
- Essential oils (such as eucalyptus, lavender and tea tree)

# GEAR SUPPORT KIT

Be ready if something fails

BY KEVIN ESTELA

KIFARU
kifaru.net
colorado, u.s.a.
MAXIMUM OUTPUT
2.1A
COMBINED

These items don't take up much space, but could prove to be vital.

Adaptive
Fast
Charging.
SUREFIRE.
123A LITHIUM BATTERY
FOR HIGH-DRAIN DEVICES
SUREFIRE.
LITHIUM
USE BY
MEILLEUR AVANT
USAR ANTES DE: 03/2032

ONE OF THE MOST OVERLOOKED ASPECTS OF TRAVEL IS THE ABILITY TO SUPPORT AND FIX UP YOUR GEAR IN THE FIELD. THERE ARE COUNTLESS TIMES PEOPLE VENTURE FROM HOME WITH A KNIFE BUT NO SHARPENER, A CELLPHONE WITHOUT A CHARGING CABLE, AND IN GARMENTS THAT COULD RIP, TEAR OR HAVE HOLES POKED INTO THEM.

An old expression I enjoy sharing is: "Everything works until it doesn't." There are probably times you can recall when a reliable piece of kit was pressed into service in less-than-optimal conditions. We want to be optimistic about our gear and how it should serve us, but the reality is that knives dull, stitches fail and electronics can run out of power.

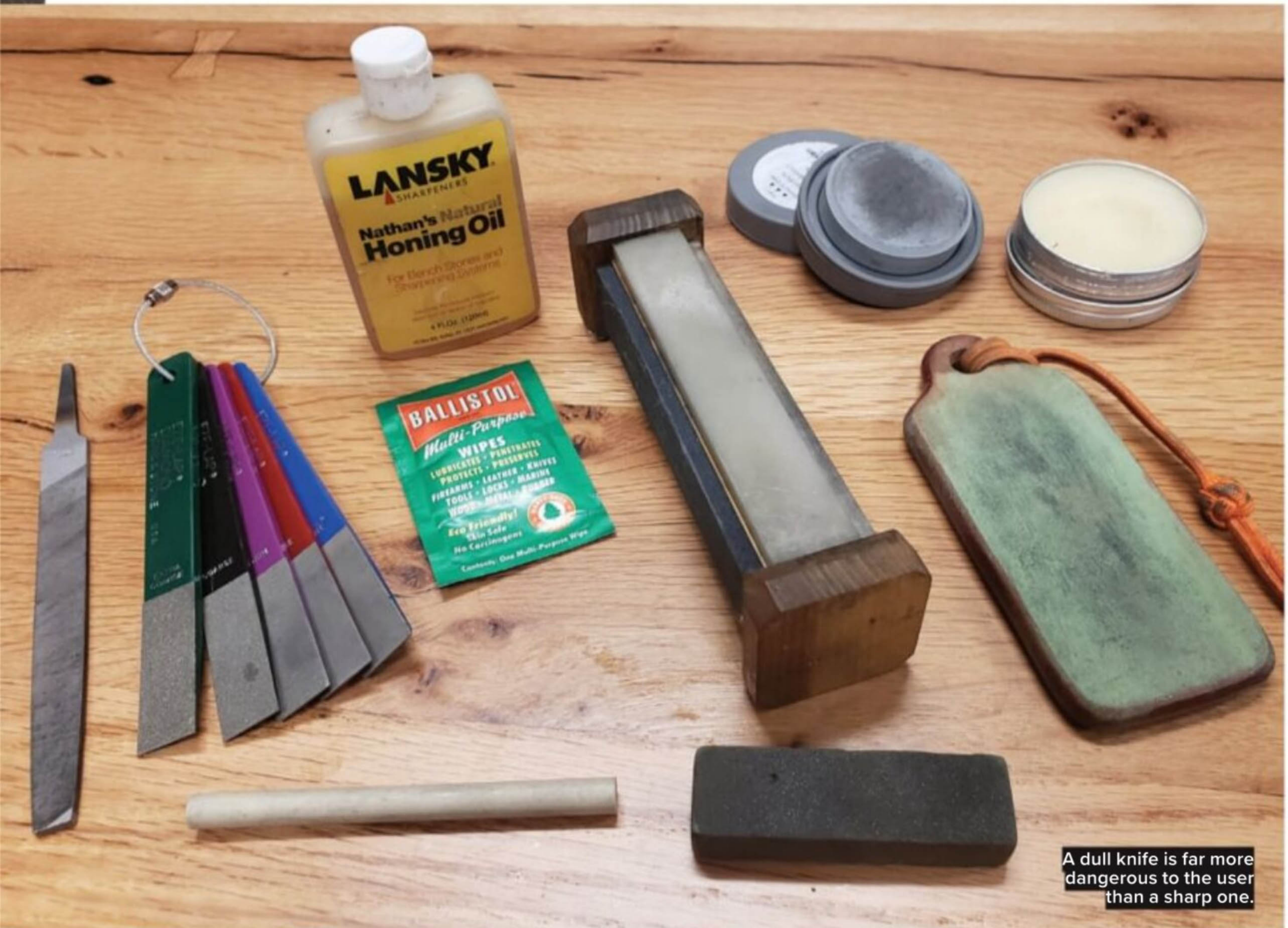
I like to pack gear that addresses what is both possible and probable, and a 100% probability is that if you use your equipment as intended, it will need a bit of maintenance along the way. Since we carry a wide variety of equipment into the field, it makes sense to break down the maintenance and support items to service our tools. We know we can't carry everything we store in our supply close at home, so we must make the best use of our EDC carrying capacity and be mindful that these items can add up and weigh us down.

## KNIFE SHARPENING

You probably have seen some traditional leather-stacked handle belt knives with sharpening stone pouches on their leather sheaths. There's something to be said about having a handy sharpening source in the field—but not all knives are carried in stone-equipped sheaths. Since your knives are going to be carried and some are going to be used hard, you will need a means to sharpen them.

If your knives are made from high-end super steels, a traditional stone won't cut it (no pun intended). For this reason, your knives should be supported with good diamond sharpening stones (600 grit, 800 grit, 1000 grit), like those from DMT, to fix dull edges. Sharpening is just part of the process of keeping your knives in good working order. You will want to carry a good strop to hone your edge, a rust eraser to remove any surface rust on your blade and some food-grade oil for the blade if the knife is used for food prep.

Other support gear that helps your knife



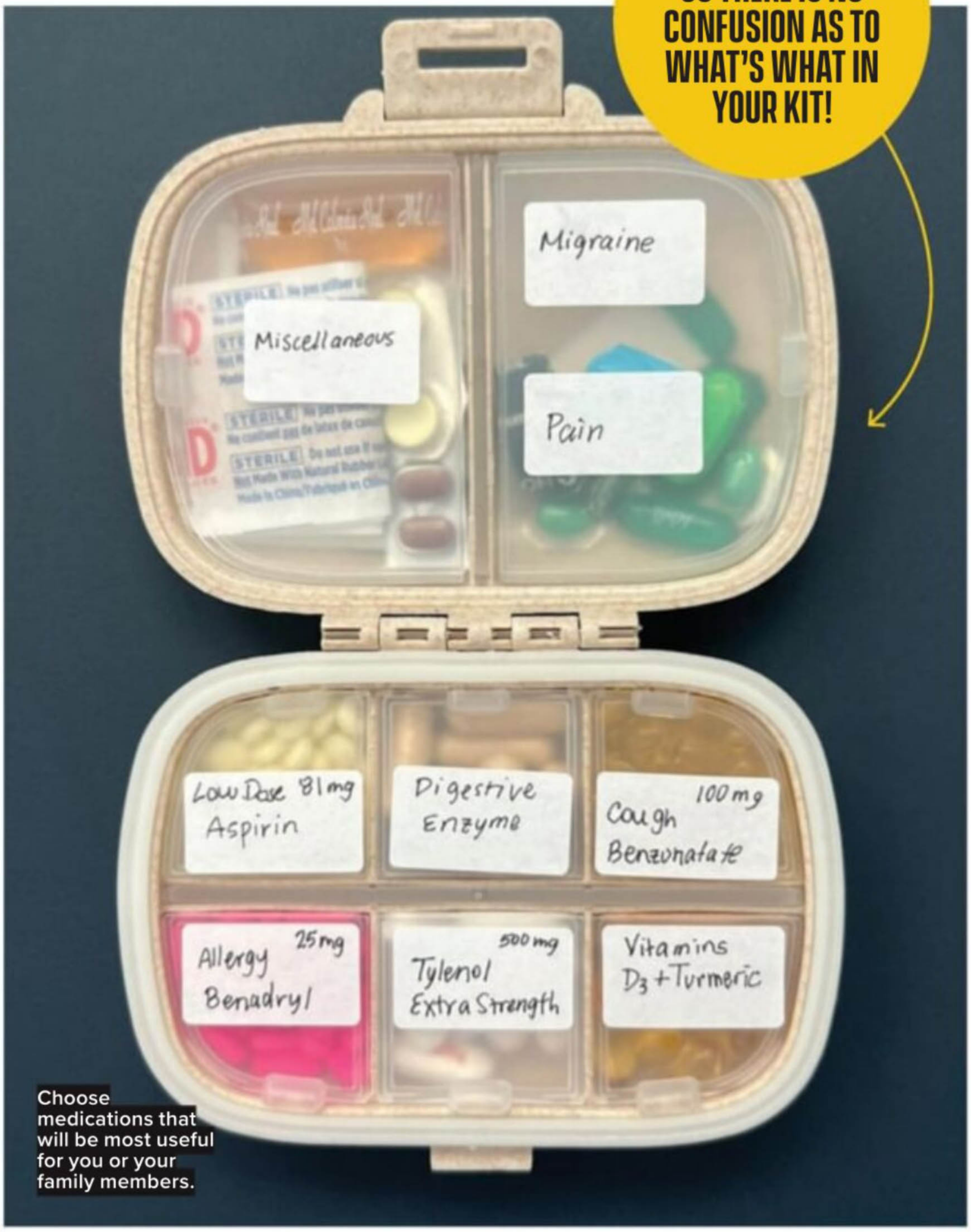
A dull knife is far more dangerous to the user than a sharp one.

perform are small wrenches or tools to disassemble it and lubricate the internal bearings and moving parts. Remember, a sharp knife is a safe knife and you should carry what is needed to ensure that safety.

## ELECTRONICS

Electronic devices have become incredibly durable for field use in adverse conditions. Cold, shock and humidity don't affect flashlights, GPS units, phones and rangefinders like they did in the past. What hasn't changed is the constant need for power in the form of batteries. To support your electronics, you will want to carry spares—and ideally lithium batteries that are less affected by the cold and store their charge for longer shelf life.

You should also try to limit the variety of batteries needed for each device, allowing you to carry a single type of battery for multiple electronics. Many modern electronics use rechargeable cells, making charging cables a great idea. These cables can either carry a charge from a USB port or a wall jack. You won't always have control over electricity and outlets—and when you do, sometimes those outlets don't work. Battery packs like the Dark Energy Poseidon are the solution to portable power in the field. These should be selected for amperage, working temperature range and their capability to recharge your devices from empty to full. Keeping your electronics running could be the difference in having light, determining your position or calling for help.



LABEL ALL MEDS SO THERE IS NO CONFUSION AS TO WHAT'S WHAT IN YOUR KIT!

Choose medications that will be most useful for you or your family members.

## EMERGENCY REPAIR KIT

There is no such thing as a warranty in the field. At home, you can box up your gear and send it back to the manufacturer to get fixed. In the field, you are your own seamstress, cobbler, tentsmith and all-around handyperson. You don't need to carry a wide array of items for everything, just a good selection of repair essentials for most things.

At the top of the list is duct tape, followed by super glue, cable ties and wire. There are many uses for these adhesives and fasteners. Safety pins make excellent closures for missing buttons and when there is a spare button for repair, a needle and thread with some knowledge

TENACIOUS™ TAPE
Ultra-strong Repair Tape
ENT SEALANT
M GRIP+SIL™

**BE SURE YOU KNOW HOW TO USE ALL OF THE REPAIR GEAR THAT YOU'RE PACKING, SO YOU CAN MAKE THE BEST USE OF IT WHEN THE NEED ARISES.**

Repair kit items include needles, thread, glue sticks, spare buckles, swatches of fabric and other quick-fix solutions.

will get your gear back in line.

Having basic sewing knowledge helps, but there are some fabrics, like some ultralight nylons, that respond better to Tenacious tape and other dedicated repair tapes. You could use duct tape, medical tape or another alternative, but these fabric tapes have special adhesives to make them last.

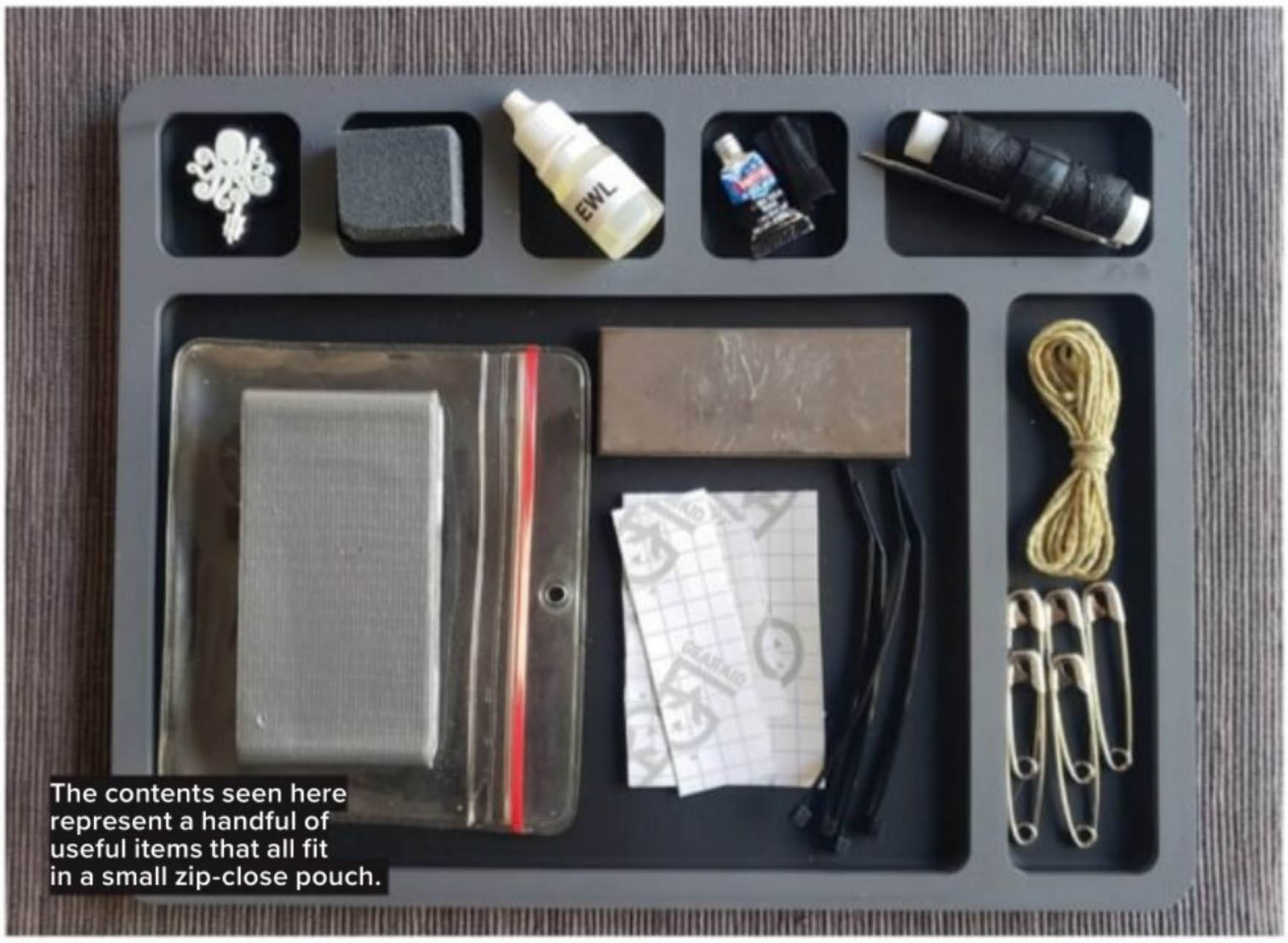
Sometimes the repair you encounter simply involves swapping out a commonly broken part like a buckle, a cable lock or another piece of hardware. It's only a matter of time until gear is broken, torn, ripped or placed out of commission until you can fix it.

## MEDICATIONS

Perhaps one of the most important assets you can support in the great outdoors is your health. Overnight, in a few hours, or at any time, you can feel your health take a dip for the worse. My father was a physician for over 50 years and always advised me to take care of my health. Whenever we traveled together, he advocated for carrying aspirin for fever and pain, antihistamines for allergies, Imodium for diarrhea, and antibiotics (with a prescription) for infection/illness. I still carry these four categories of medication whenever I venture outdoors.

If you are female or if you travel with a female companion, you may find yourself carrying additional medications. A popular internet photo shared frequently has been a small fishing tackle box repurposed as a small travel medication kit. In addition to common medications, health supplements like vitamins, drink mixes and small bandages can also be carried.

The gear we carry supports our objectives in the field—but what supports our gear? It's important to have the tools needed for maintaining the critical items we depend on. It's possible to improvise a repair, sharpen a knife on a cinder block, and charge a battery with some wild MacGyvering, but life is so much easier and more enjoyable when you have what you need. I believe we learn best from our mistakes, or at least we should. It should only take one item knocked out of commission to make you want to carry a backup next time. Careful planning will keep us from packing too much and with the right accessories, we can travel farther and be more capable.


The contents seen here represent a handful of useful items that all fit in a small zip-close pouch.

## KEEP THE KIT CONTAINED

There's little need to rush out and buy some sort of fancy bag or pouch for your gear repair kit. A plastic bag with a zippered top works just fine. But if you're wanting something a bit nicer or more durable, here are a few companies we recommend:

- **Tuff Possum Gear**
  tuffpossumgear.com
- **5.11 Tactical**
  511tactical.com
- **Blue Ridge Overland Gear**
  blueridgeoverlandgear.com

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Kevin Estela is a lifelong outdoorsman who grew up in New England. He is the author of *101 Skills You Need to Survive in the Woods* and hundreds of published articles on bushcraft and survival. He is also a highly sought-after instructor and speaker.

24 OZ
16 oz
500 ml

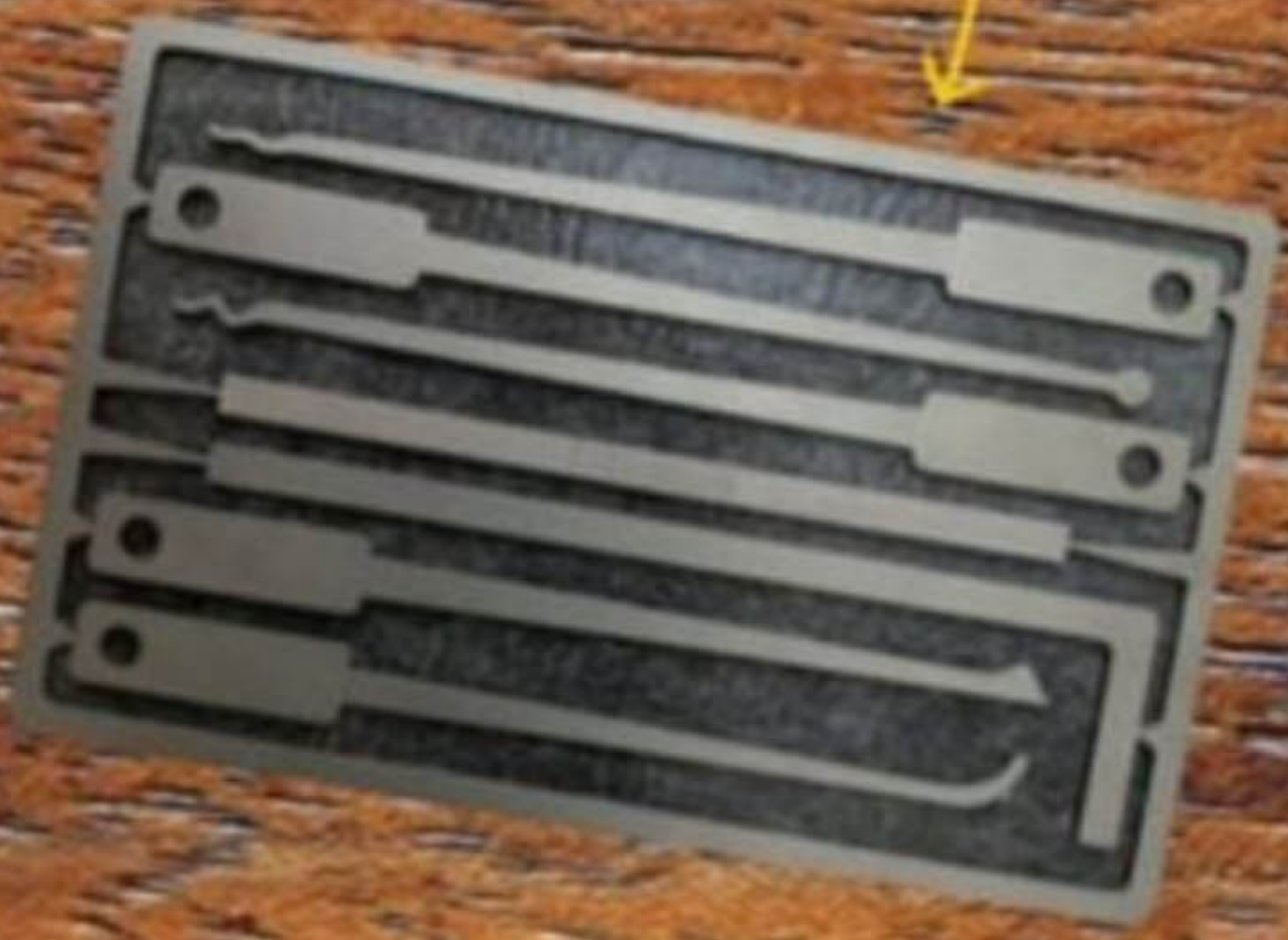
## CHAPTER 4

# EQUIPMENT

**HUMANS INVENTED TOOLS FOR MANY REASONS–ONE OF WHICH IS THAT THEY'RE FUN TO USE.**

# NEW PRODUCTS

YOU NEVER KNOW WHEN YOU MIGHT BE LOCKED OUT AND YOU'VE LOST YOUR KEY!



1

## AMMO BAG

Made with the finest materials by skilled artisans, this bag is functional as well as incredibly easy on the eyes. It has a spacious main compartment, a top snap and sturdy construction featuring 10.1-ounce waxed canvas. It is 8.25 inches tall and 9 inches wide. The handles wrap around the bottom and back up for added strength when used with a heavy load.

- **MSRP** $59
- **URL** *pnwbushcraft.com*

2

## LOCK PICK MANIPULATION CARD

Laser-cut from a single sheet of Grade 4 titanium with 0.001 mm precision, this kit is compact and versatile. The tools can be removed from the kit, used as needed, then easily replaced. The card's adhesive backing could be stuck to the back of an expired credit card, so you can keep it hidden in your wallet.

- **MSRP** $15
- **URL** *countycomm.com*

3

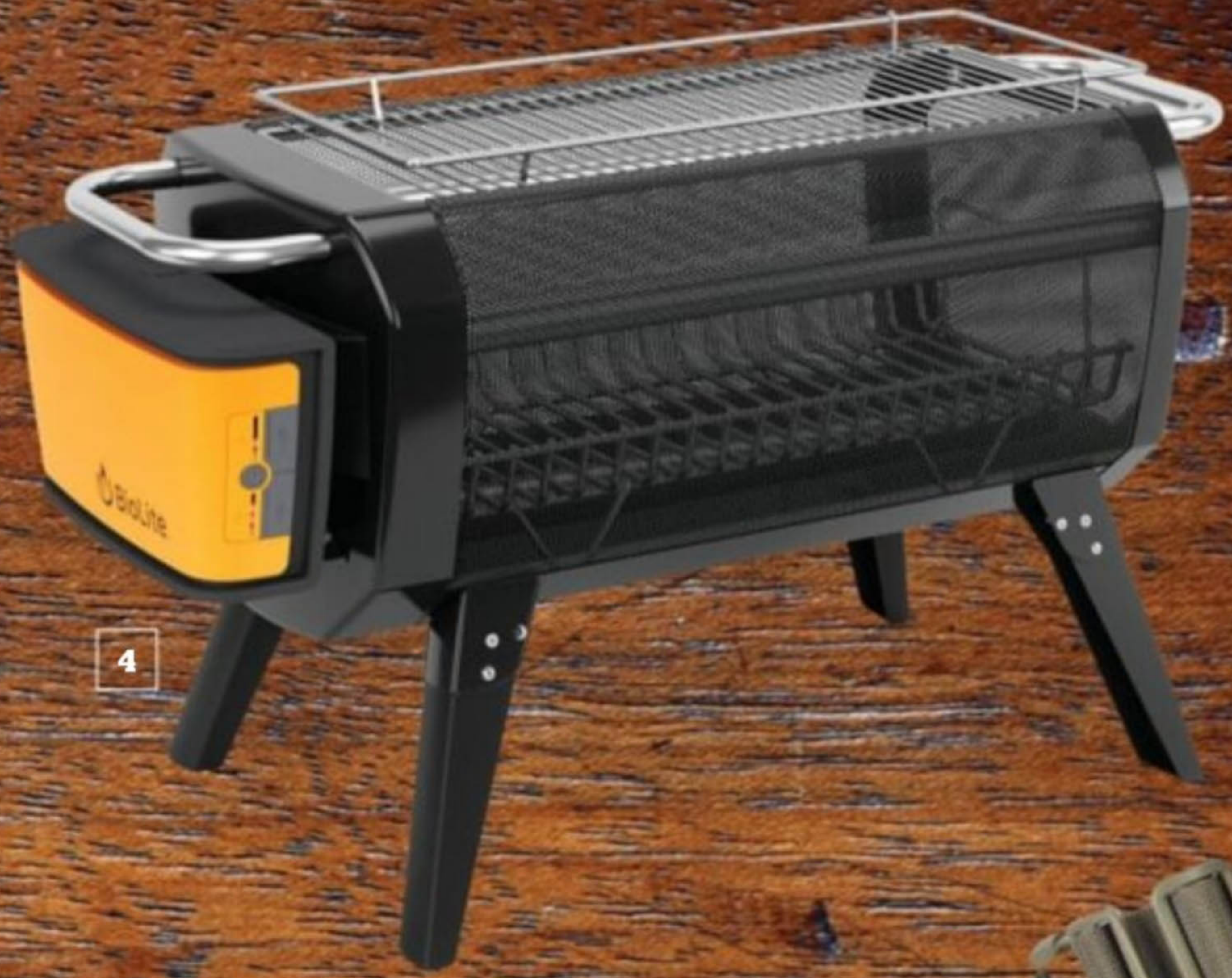
## ALPENGLOW MINI

This compact lantern is great for camping as well as home use. The ChromaReal LEDs provide warm, accurate lighting while multicolor modes make for a lot of fun. There is an integrated bungee strap that allows you to hang the lantern from poles, branches and more. It provides 150 lumens for five full hours on the high setting.

- **MSRP** $40
- **URL** *bioliteenergy.com*

## The latest and greatest gadgets and goodies

BY BSG STAFF



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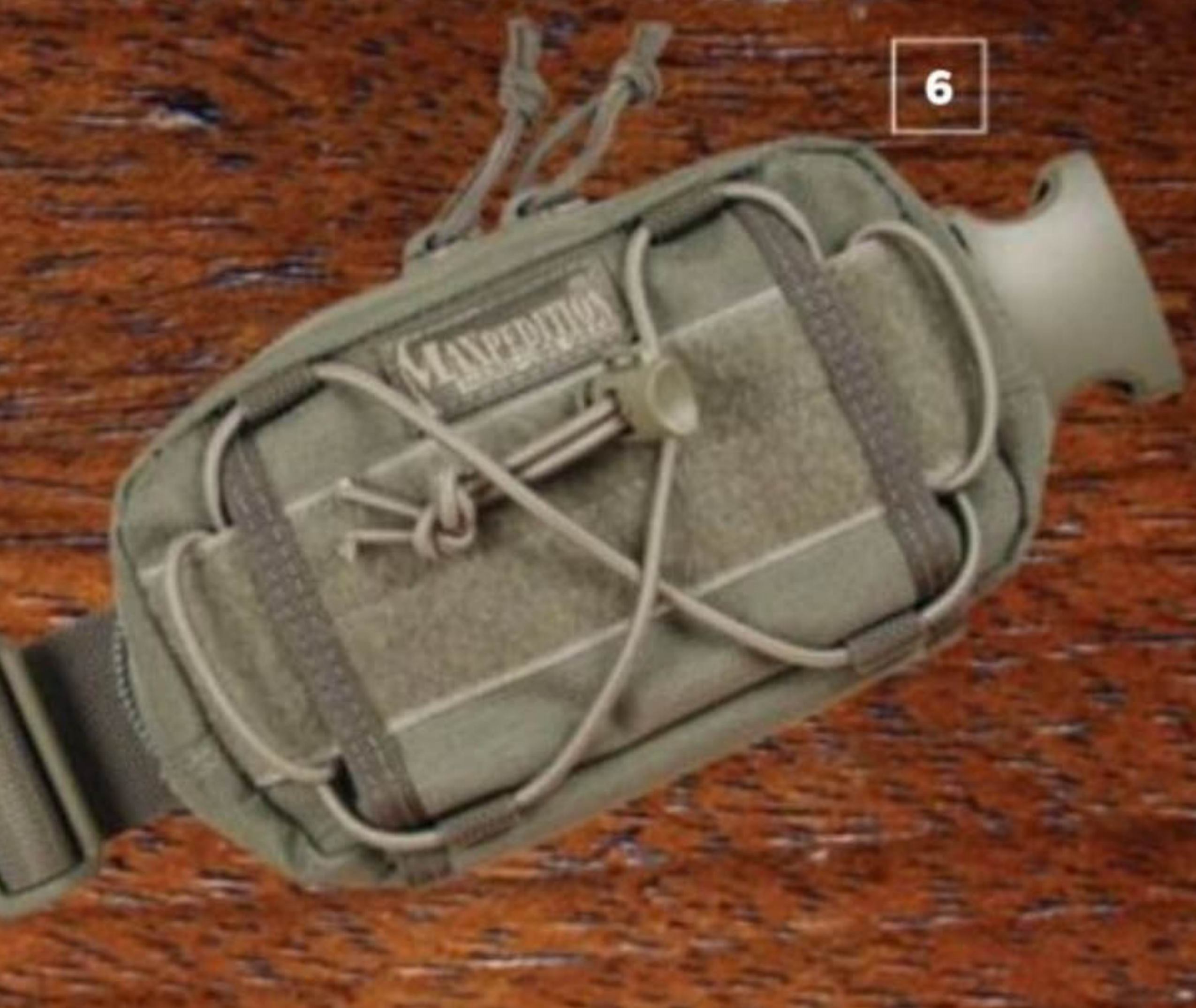

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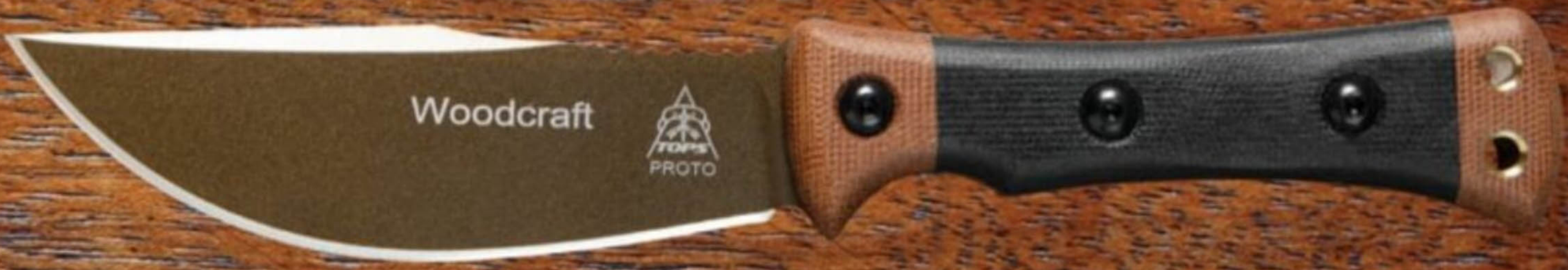

4

### FIRE PIT

Most of us have had the experience of the smoke from the patio fire pit following us, no matter where we sit. Not an issue with the FirePit+, due to Biolite's patented combustion system, which radically reduces the amount of smoke from the fire. The X-Ray Mesh body provides a great view of the fire, too. A free grill grate is included as well.

- **MSRP** $175
- **URL** *bioliteenergy.com*

5

### WOODCRAFT

TOPS Knives has updated the classic Woodcraft knife from Marble's with modern materials. The original stacked leather handle is mimicked with different colors of Micarta. The sheath matches the old-school cowboy style, preventing the knife handle from getting snagged on brush and branches. The knife measures 8.75 inches from end to end.

- **MSRP** $235
- **URL** *topsknives.com*

6

### JANUS EXTENSION POCKET

If you have a backpack or a waist pack that needs just a little more storage, here you go. The Janus Extension Pocket splices into 2-inch shoulder or waist straps via side release buckles. Or you can remove the strap and just use the pouch by itself. There are two interior pockets and three-channel elastic organization inside.

- **MSRP** $43
- **URL** *dlttrading.com*

7

8

COMPRESSION DRY SACKS ARE A GREAT WAY TO KEEP YOUR SUPPLIES ORGANIZED!

9

7

## DOG BIVY BOWL

It packs flat while you're traveling, then easily pops open to provide a nearly 8-cup capacity for food or water for your canine companion. Empty, the bowl weighs just a few ounces, so it won't slow you down during your trek from Point A to Point B and beyond. The welded, single-wall construction is waterproof and keeps the bowl easy to clean.

- **MSRP** $30
- **URL** *ruffwear.com*

8

## VIKING SPARK NECKLACE

Unlike other everyday necklaces, it combines tools for sharpening and fire-starting, while looking amazing. The hand-cut Arkansas Novaculite whetstone allows you to sharpen any bladed tool. Resting along the backside of the stone is a ceramic scraper that's perfect for scraping sparks from the included ferrocerium rod.

- **MSRP** $70
- **URL** *wazoogear.com*

9

## BLOCKER COMPRESSION DRY SACK

Ranging in size from 5L to 30L, these bags have valves that vent trapped air to ease compression, while also being fully waterproof. Made from lightweight 70D polyurethane-coated nylon, the sack is durable and great for all-around use. The roll-top closure features a wrinkle-free stiffening strip for a secure seal.

- **MSRP** $28–$42
- **URL** *seallinegear.com*

10

12

IF YOU HAVE CASH YOU WANT TO KEEP SOMEWHAT HIDDEN, THIS IS A GREAT OPTION!

11

10

## APPROACH DOG BACKPACK

Let your dog carry some of their own food and gear during your trek. The radial-cut saddlebags are sized for extended day hikes and even light overnights. There's a passive compression system for efficient load carrying over the shoulders. The integrated harness and breathable chassis enhance stability and comfort.

- **MSRP** $110
- **URL** *ruffwear.com*

11

## TITANIUM XL CASH CACHE

Originally custom-made for a pharmaceutical company, these are an overrun from the limited production. The cache is perfect for storing all manner of small EDC items or cash. It will hold 10 U.S. currency bills perfectly. It is made from Titanium 6AL-4V with a stonewashed finish. From end to end, it measures 3.27 inches, and it weighs just 2.1 ounces.

- **MSRP** $40
- **URL** *countycomm.com*

12

## EVERYDAY SLING

Available in sizes 3L, 6L (shown) and 10L, this is the perfect companion for the minimalist. Designed with the photographer in mind, the 6L is suited for a DSLR camera, to give an idea of size. The Sling's padded strap features a quick-adjuster that you can loosen when accessing gear. The weatherproof 400D shell keeps everything safe and protected.

- **MSRP** $120
- **URL** *peakdesign.com*

# GOING DARK

Get the gear needed to brighten your night

BY MICHAEL D'ANGONA

There are many ways to shed some light on the subject after sundown.

**HOW MANY TIMES HAS THIS HAPPENED? YOU'RE SITTING AT HOME WATCHING TELEVISION AND ALL OF A SUDDEN, YOUR HOUSE GOES DARK AND SILENT. AFTER GRUMBLING, YOU FIND A FLASHLIGHT AND BY THE TIME YOU CLICK IT TO THE ON POSITION, YOUR POWER COMES BACK UP.**

KEEP A FLASHLIGHT IN EVERY ROOM OF THE HOME, SO YOU'RE READY FOR POWER OUTAGES!

This can occur during a rain or windstorm, or due to a transformer malfunction on your block, or even when some electrical workers are fixing a downed line. It's normal and often only results in some minor inconveniences.

However, a blackout experience can be much worse and last far longer than just a few minutes. During a natural disaster, social unrest or, in extreme cases, a military takeover, you may experience long-term power outages, and with it, very dark nights.

As terrifying as this may seem, you can ease the impact if or when this comes to fruition, if you are prepared. From the best flashlights to buy to a generator's pros and cons, every other item you'll need to fight the darkness will be explored.

## WHAT CAN HAPPEN?

Being left in the dark may seem like just a minor inconvenience, but many problems could arise from being essentially blind at nighttime. First, there's the injury factor for you and your family. From walking down the steps to maneuvering along a cluttered hallway to making a sandwich in the kitchen, the chance of a slip, fall or even sharp-object injury could increase. We heavily rely upon our eyes in daily life; once that sense is taken away, otherwise normal tasks can be difficult and dangerous.

Second, being in total darkness leaves your home a target for looters or thieves.

SOLAR PANELS ARE A WAY TO KEEP THINGS WORKING WHEN THE POWER GOES OUT!

Larger electronics, like a tablet or laptop, can be charged with a large solar charger.

Headlamps are perfect for hands-free illumination.

Though it may be locked and showing no signs of anyone home, your house goes to the top of a burglar's list.

Finally, with darkness comes fear. Every sound heard throughout a pitch-black home can create uneasiness and anxiety. If children are in the home, their fear coupled by your own can create many nights without peace or much sleep. This, over time, can have a detrimental effect on one's physical health and mental health, as well.

INPUT
USB
AC
GOALZERO
YETI150
GOALZERO
GOALZERO

A solar-powered generator is safe and quiet for emergency power.

## EVERYDAY GEAR

It should go without saying that the primary weapon against the effects of a blackout is a flashlight. This item should be the first thing you grab when you're plunged into darkness after the sun has fallen. You should have multiple flashlights easily accessible throughout your home and all family members should know their locations.

With that being said, all flashlights are definitely not created equally. The selection on the market runs the gamut from cheap plastic dollar-store models to high-end varieties running upwards of a hundred bucks. You will be fine with ones that fall in between this range. It must be dependable, so a name-brand unit should be preferred. As for its power source, this becomes tricky. Many flashlights have rechargeable batteries that must be charged. But if you're in a blackout, then your power is out. Flashlights that offer dual power sources are your best option. Flashlights that use standard batteries (which you'll need to stock plenty of, and make sure they are fresh) along with either electrical or solar-powered rechargeable options ensure long-use power to your light.

There are crank-style flashlights that don't require any other power source than your own elbow grease. These can be useful as a backup, but in my experience, it usually takes a lot of cranking for a very small duration of light. Additionally, table lanterns or individual lamps with the same rechargeable or solar features of your flashlights are excellent for stationary light sources to illuminate a room. These should be used when all or most members of the family are staying in one room. They can conserve battery life from numerous flashlights that would otherwise be used by multiple people.

## OLD-FASHIONED MEANS

Electronics are good, with light appearing a push of a button, but don't dismiss old-fashioned means of producing light like matches and candles. These have been used for hundreds of years and can be helpful for you too.

Not all candles are created with the same materials, however, so you need to know what to shop for. Look for candles that are chemical-free and made from 100% beeswax. These will not give off toxic fumes, which is important because most people at night are closed in within their home. Paraffin wax candles are found on the market, but they tend to burn dirty and should be avoided for indoor home use.

It's best to buy long-burning pillar candles, which are highly stable due to their large diameter base and won't easily tip over like thin, long candles might (many house fires are caused by improper candle use, so never leave them unattended). They also have long burn times, with the smallest being around 40 hours and larger ones averaging nearly 200 hours. Keeping one or two large pillar candles (safely) in one room will cover your lighting needs for weeks.

Candles don't have an expiration date and they won't deteriorate over time, so they do make a great primary or secondary option during a blackout. They may melt slightly or deform in hot environments like a car trunk, attic or outdoor shed. But as long as they are stored where temperatures are below 140 F, they should be just fine. Also, remember to have matches or a lighter stored near your candles. You don't want to have to ransack your home to find a means to light your candles when your house is in total darkness.

## POWER SOURCES

A blackout doesn't just mean no lighting, but it also means no power—and if you truly want to not live in the stone age for a few days or even a few weeks (think extremely dangerous natural disasters like a hurricane or intense blizzard), you can think about a solar cell and/or a generator.

Solar power cells come in a variety or sizes and options, from ones no larger than your cellphone to fold-out units that can cover 12 to 15 square feet. There are two primary parts of a solar cell: the solar panel and the power bank. Depending upon the size of the unit, these can be integrated into one main component or kept separately (especially on larger models) and attached to one another via a cord. A small power bank that fits into the palm of your hand will power your cellphone and minor electronics. Many come with included LED lights, which essentially make them a solar-powered flashlights too.

A power cell the size of a notebook can power a tablet, multiple cellphones and a larger light or lamp. In larger and more powerful units, the solar cells and power bank are separate, and can accept even more types of inputs, such as traditional USB, USB-C, 12V and 120V AC ports. Bear in mind that the more powerful your unit is, the larger it is, so keep that in mind when you're purchasing. First, be sure you have the room to fully extend it opened (especially if you live in an apartment) and also be aware that others may see your means of getting power and in desperate times, may attempt to steal it for themselves.

Larger generators, like traditional gasoline-powered units, are a viable option for power and in turn, lighting. But these are loud, use gasoline and can't be run indoors. They are best suited for homes with large property footprints and neighbors that are far from your residence.

Label your fuse box at home, so you know which switches controls which areas of the house.

## DON'T FEAR THE DARK

Fear in many cases comes with the unknown, and when there's a blackout there is much unknown for a person to absorb. Lack or power means lack of light, and being afraid of the dark is a very real thing for many people. But it doesn't have to be for you. Having the proper gear in accessible storage locations is the key to getting through a blackout. When others are sitting in darkness, panic won't come your way as you've prepared your home to deal with temporary blips in your power utility, including being able to light up the night.

A solar lantern offers light for an entire room during a blackout.

## A LOOTER'S PARADISE

Neighborhoods that are prone to constant power outages or blackouts are prime locations for looters. But you don't have to be a helpless victim. The tips below can help fortify your home and send looters packing to a less fortified residence.

**Beef Up Your Doors and Windows** Basic factory locks for your windows and doors just won't cut it when aggressive looters target your home. Go to your local home improvement store and upgrade. Reinforced deadbolts, metal plates to prevent prying and security bars for your windows are great ways to start.

**Secure Your Perimeter** Walk the perimeter of your home and note any weak points. Thick hedges for hiding, items laid about that could be used to reach windows or blind spots from lighting or cameras should all be checked.

**Add an Alarm** An indoor home alarm and motion sensors outside offer a one-two punch against intruders trying to loot your home. Most systems today are user-friendly, wireless and transmit directly to your cellphone.

**Get a Dog** Any type of dog will assist to protect your home. A large breed can be intimidating to anyone who is approaching your home, but a smaller dog will function as an alarm system and bark fiercely when something isn't quite right.

**Time to Fence** Either entirely around your home or in key locations, a fence can inconvenience a thief to the point they choose an unfenced home over yours. Looters want to get in and out fast and a fence will impede their speed.

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Michael D'Angona is a freelance writer, author, martial artist and survival skill practitioner. He has published hundreds of articles encompassing such topics as self-defense, preparedness and outdoor skills. He currently offers magazine writing services and instructional videos at mjd-writersresourc.wixsite.com/my-site.

Ray-Ban
MSF-G
CIAL OPERA
1971

# POCKET DUMPS

## What's in your pocket?

BY JIM COBB

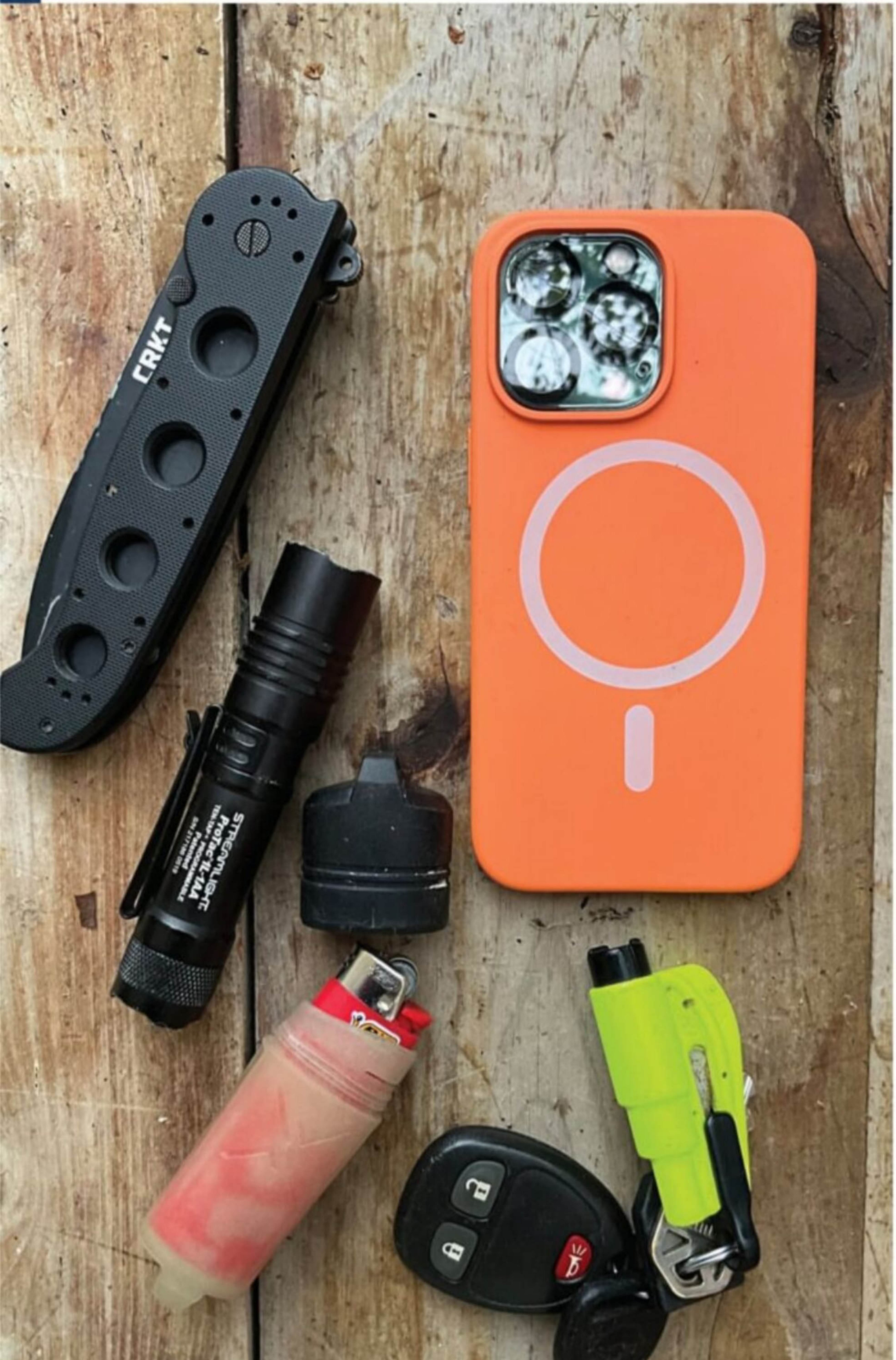
TOPS KNIVES
SPEC OPS TRUST TOPS
topsknives.com
(208)542-0113
THRUNITE

How items are carried is almost as important as what's being carried, such as the use of a cable-style key ring.

EVERYONE WILL BE DIFFERENT, BUT THERE'S USUALLY SOME COMMON GROUND!

## EVERYDAY CARRY, OR EDC, IS A POPULAR TOPIC IN SURVIVAL CIRCLES. THE BASIC IDEA IS TO ZERO IN ON THOSE ITEMS THAT YOU WANT ON YOUR PERSON OR WITHIN CLOSE REACH AT ALL TIMES WHEN YOU LEAVE YOUR HOME.

The term "pocket dump" refers to a common type of post on social media where you share a photo of the things you have with you at the time. The idea, quite literally, is to pull out all of the contents of your pockets and snap a photo. I'll be honest, I've seen some pocket dump photos that all but guarantee the person must be wearing two belts plus suspenders to keep their pants up, given the weight of all of the items they purportedly carry, such as four different knives, three flashlights, a bulging belt pouch filled with gear and a ton of other equipment. Of course, some photos are obviously staged,



This bare-bones setup will accomplish just about any normal daily task.

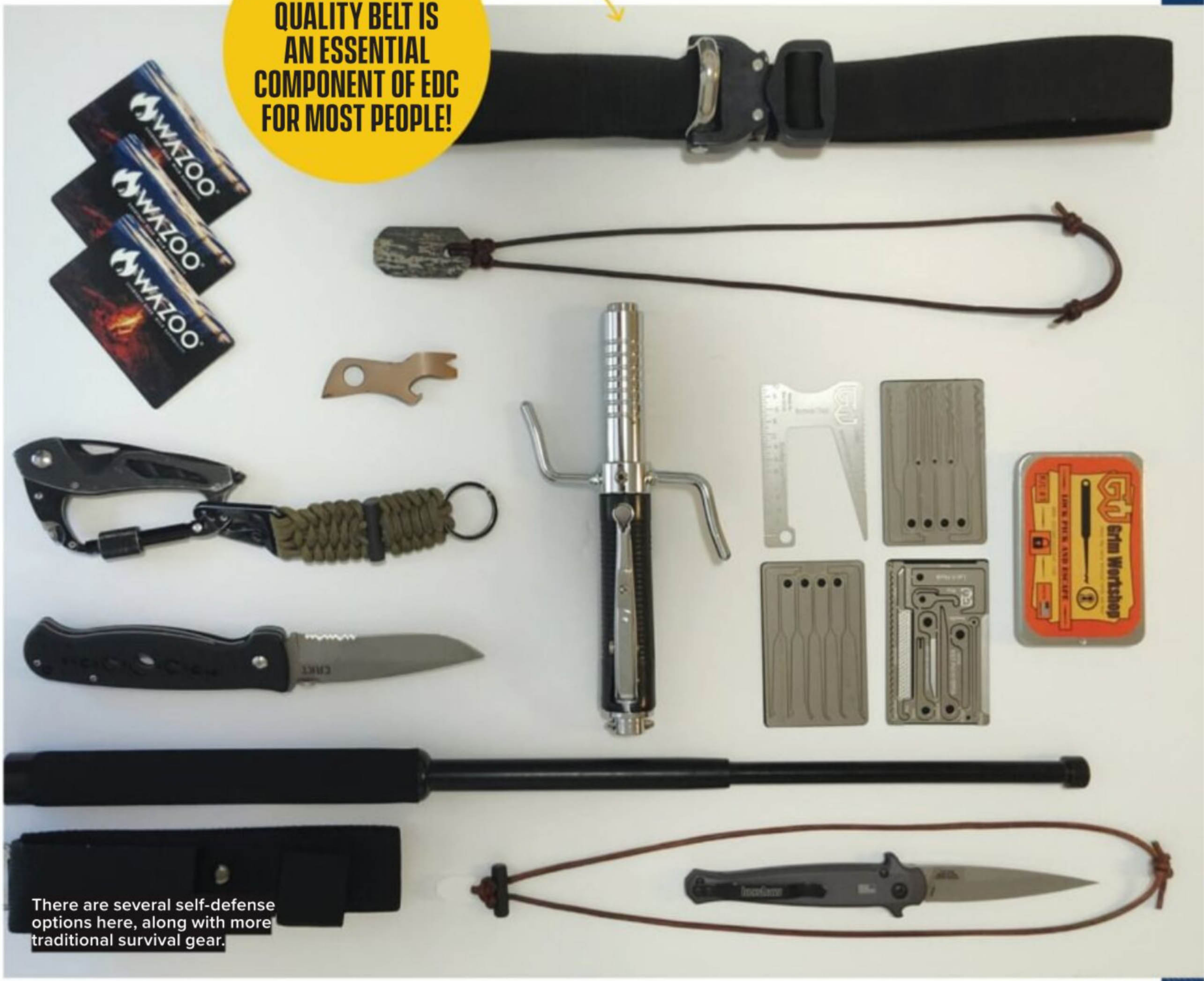
while others look much more realistic.

I'll admit that I'm something of a gear-hound, in that I love to see what others carry. I've picked up all sorts of neat tricks and ideas over the years, gleaned from those who have shared their EDC with me privately or posted photos of what they carry on social media for discussion.

Recently, we asked three of our regular *Backwoods Survival Guide* contributors—each of them instructors as well as writers—to share with us their own routine EDC items. I should note that we specifically asked these instructors to leave firearms out of the equation for this discussion. The reason for that is because out of all of the different potential EDC items, the choice of a firearm is perhaps the most personal.

## CRAIG CAUDILL

Craig is a bestselling author and the Director of Nature Reliance School, located in Kentucky. He teaches disaster readiness, backcountry wilderness safety and survival skills to individuals, corporations



A GOOD QUALITY BELT IS AN ESSENTIAL COMPONENT OF EDC FOR MOST PEOPLE!

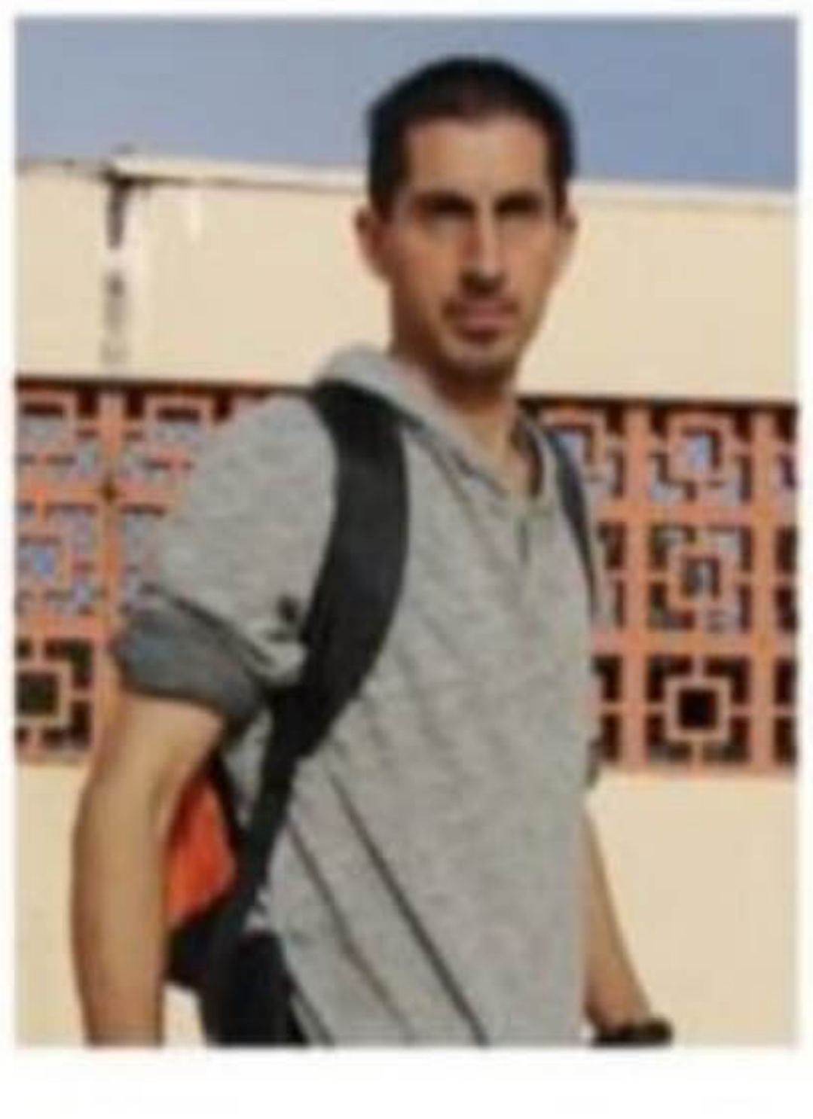
There are several self-defense options here, along with more traditional survival gear.

and government agencies. His books include *Extreme Wilderness Survival* and *Ultimate Wilderness Gear*. You can find him online at naturereliance.org.

I am a minimalist at heart and carry the necessities and the other more robust items nearby in a survival go-bag. I carry the requisite key chain with necessary keys along with a brightly colored ResQMe device. This device will punch vehicle windows and cut seat belts during a needed extraction from a wrecked vehicle I am in, or in one where I am assisting others.

I carry the Streamlight ProTac. It's compact, fits in my hand well and is as bright as I need it to be. Not too bright to cause eye white-out, either. The CRKT M21 is my pocket carry, do-it-all blade. It opens boxes, builds traps, digs out splinters and occasionally cuts up venison steak at the campfire.

I carry my Apple iPhone in a slim and brightly colored case. This makes it easy to see when I need to retrieve it from a pack, a messy kitchen counter or a vehicle at night. I also carry a regular Bic lighter in an Exotac fireSLEEVE. Thermoregulation is king in survival, and a lighter makes getting a fire easier in a pinch than most other options.



## MICHAEL D'ANGONA

Michael is an experienced aikido and Japanese jujitsu instructor, as well as a skilled fencer and stick-fighting practitioner. He is a prolific writer, appearing in numerous magazines.

Many of my EDC items are incorporated into gear that I either wear or carry regularly, like my keys and wallet. From Wazoo Gear, I wear the whetstone necklace or the fire-starting necklace, and always have a Cache Belt around my waist. Some of its interior items vary depending upon my geographical needs, but will always house a razor blade, a mini light, wire and/or cordage, water purification tablets and tinder bundles.

My wallet has slots allocated for fire-starting cards from Wazoo, along with stainless steel lock-picking gear from Grim Workshop. My keychain is composed of two parts. One section is from Titan Survival and offers the key ring, along with a ferro rod and usable cordage when unraveled. The clip that normally attaches to your belt loop actually conforms well with a multipurpose carabiner. This unit features a sharp straight-edged blade, bottle opener and a window punch, which is a necessity to escape from a vehicle that has overturned or has crashed into a body of water. I'm from Florida, so going off-road and into a canal is a very real potential scenario.

A WHISTLE TAKES UP VERY LITTLE SPACE, BUT COULD BE NEEDED TO CALL FOR HELP!

CASIO
F-91W
GRIFFIN
STEOS

For defense, I carry either a standard telescoping baton or an automatic baton depending upon my attire for the day, as the automatic is a bit bulkier. Each baton is 21 inches long, which is ideal for me because it offers great defensive and offensive capabilities, while still being able to be concealed inside my back pocket. For regular carry, clipped to my front pocket I have been using the Crawford Falcon folder from CRKT. I find it is large enough to fit my hand comfortably and it produces excellent results for basic cutting needs. My backup is the push-button-activated Launch 8 by Kershaw.

**EDC GEAR NEEDS TO BE BASED ON YOUR INDIVIDUAL NEEDS AND SITUATION, BUT REVIEWING WHAT OTHERS CARRY CAN GIVE YOU SOME IDEAS.**

### REUBEN BOLIEU

Reuben is an adventurer, writer, and photographer, as well as a survival instructor for Randall's Adventure & Training. He has spent most of his life hiking and backpacking through the wildernesses of the world. He has traveled abroad in extreme environments and seeks out primitive survival techniques, construction, and uses of knives and edged tools. Reuben has published many articles on survival, knife and tool use, and woodcraft. He remains a lifetime student of survival.

The heart of my pocket carry is the Griffin Adventure Tool, which holds the contents of my belt loop kit. The Griffin Adventure Tool is designed with utility in mind to fill gaps in the current EDC market's capabilities. It features a proprietary carabiner design for securing the tool, a No. 2 Phillips head screwdriver, a split-ring recess, and a notched ruler marked to the 16th of an inch. There's more to this mini multitool, like the key recess in the 8 mm hex wrench that holds my mechanic's keychain with my keys/fob, ThruNite flashlight and TOPS Knives whistle.

I carry a compact folding knife, although the model depends on where I'm going and what I might be testing at the moment that I'll be covering in a future review, ranging from a TOPS MSF-G in Elmax steel to a Wazoo Gear Mini Ceramic Folder. When I'm not working on a gear review assignment or similar sort of article, my default knife is a Victorinox Camper. The idea is to have a utility cutter that won't alarm those around me.

The Armatus EDC Wallet is a durable and lightweight wallet made from genuine military-grade components. It has a laminated nylon soft loop that securely holds cards and cash in place with a mil-spec Pull-the-Dot snap. The EDC Wallet 2.0 can hold up to eight credit cards, making it a practical and efficient accessory. I usually have a Fisher Space Pen Bullet tucked into one side of the wallet, if not a Rite in the Rain Metal Clicker attached to a pocket.

Throw in a good pair of sunglasses and a reliable watch like a Casio F-91W, and you're ready for the jungle—whether it's the green or concrete kind you're headed to next.

## OFF-BODY EDC

For the purposes of the discussion in this article, I told the instructors that I was only interested in hearing about what they carried on their bodies, such as in their pockets or on a belt. But there is also something to be said for off-body EDC. These are things that you'd keep in a small sling bag, messenger bag or backpack.

When I used to work outside the home, I used a Vertx EDC Gamut backpack, then later an Eberlestock Switchblade backpack, every day. Inside, I had my laptop, notepads, writing utensils and other work needs, as well as some more survival-centric items, such as:

- Small fixed-blade knife
- Extra flashlight batteries
- Small first-aid kit
- Multitool
- Hank of paracord

Having some sort of off-body option greatly increases your EDC capabilities. If you're already carrying a bag of some sort for work, it just makes sense to add in some survival gear as well.

FEUERSTOCK

A GOOD FERROCERIUM ROD WILL BE ABLE TO LIGHT COUNTLESS FIRES FOR YOU!

One advantage a ferrocerium rod has over other tools is that it will work in any temperature or weather conditions.

# FROM SPARK TO FLAME

## Get it burning fast

BY MICHAEL D'ANGONA

**FIRE IS PROBABLY THE MOST VERSATILE CATEGORY IN THE WORLD OF SURVIVAL. UNLIKE SHELTER, FOOD AND WATER, FIRE CAN PROVIDE A GREAT NUMBER OF DIVERSE SERVICES FOR THOSE IN THE OUTDOORS UNDER EXTREME OR EMERGENCY SITUATIONS, PROVIDED YOU CAN MAKE IT.**

From warmth during blustery cold weather to turning raw game into safe-to-eat food, to purifying water, acting as an insect repellent and keeping large animals from eyeing you as potential dinner, fire is something you can't do without.

But it's not always easy to produce, especially in harsh, unforgiving environments. It takes tools in the form of fire-starters, accelerants, and multi-item kits to get a spark started and expanded to a larger, more useful blaze that will meet your needs.

FEUERSTOCK

## FEUERSTOCK FERRO ROD

You need to separate quality gear with easily broken "junk" and you can start with Creek's beefy ferrocerium rod. This unit means business when you're stuck in not-so-ideal conditions. It's easy to find, easy to hold and easy to use to produce showers of sparks in excess of 1,000 F. It measures 0.5 inch in diameter and 5 inches in length, so you won't have any trouble getting the job done. Rain, snow, freezing cold? No problem when you have the Feuerstock ferro rod securely in hand.

**Specifications**

- Large unit with included lanyard
- Starts a fire in any weather condition
- High visibility red outer coating
- Easy to grip, with extra-long striking runway
- Includes striker with nonslip rubber handle

**MSRP** $30
**URL** *creekstewart.com*

## FIRECARD

Slip this card into your wallet and be ready for fire-making anytime and anywhere. Constructed of modified biopolymer, just scrape off some small fragments or entire pieces, apply a spark or match light, and create a fire in no time flat. The card works even when wet so you don't have to conform to nature's weather schedule. A convenient three-pack allows for dozens of fires, and stores just about anywhere in one ultra-small footprint.

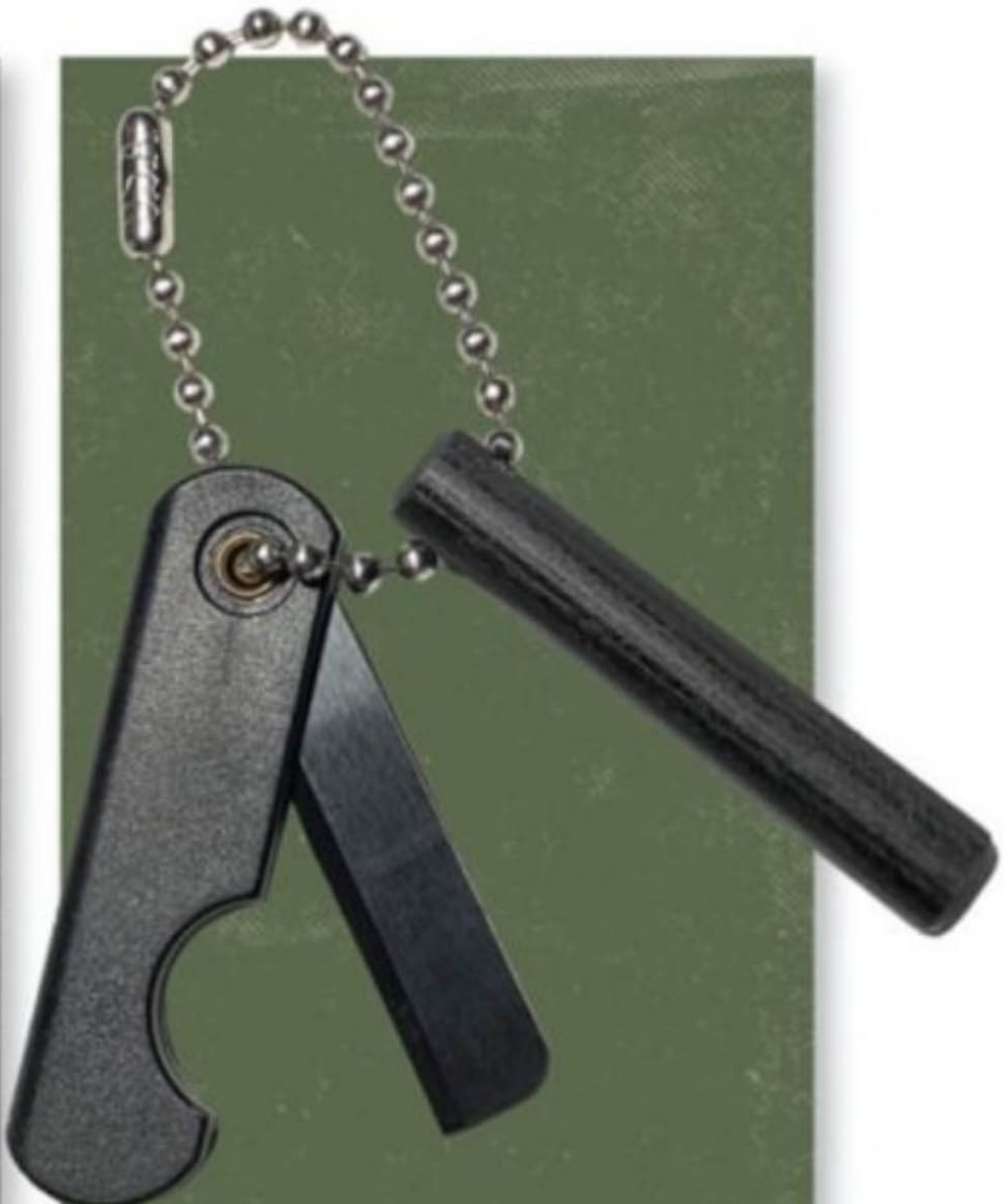
**Specifications**

- Credit card size fits into wallet
- Composed of highly flammable biopolymer
- Waterproof, works even when wet
- Scrape fragments or use card whole
- Convenient three-card pack

**MSRP** $10
**URL** *wazoogear.com*

WAZOO
EVERYDAY GEAR. WILD CAPABILITY.

SHAVE A BIT OFF ONE OF THESE CARDS AND LIGHT IT WITH A SPARK TO GET THE FIRE GOING!



## FIRE-STARTER KEYCHAIN

If you carry keys, then you can carry this fire starter everywhere you go. Using the ferro rod and scraper you'll be showering sparks in seconds. The ceramic scraper and included knife won't corrode, dull or break down under nature's rough conditions. Bets of all, the chain-held unit fits in any small pocket or even in the tiniest compartment of your gear bag without effort. Keep several on you or in your packs for quick fire-making tasks.

**Specifications**

- Extremely compact and highly durable
- Easily attaches to keychain
- Scraper will not corrode or dull
- Extra-sharp ceramic knife
- Shavings burn temperature: 5,500 F

**MSRP** $18
**URL** *wazoogear.com*

## EXTREME WILDERNESS FIRE-STARTING KIT

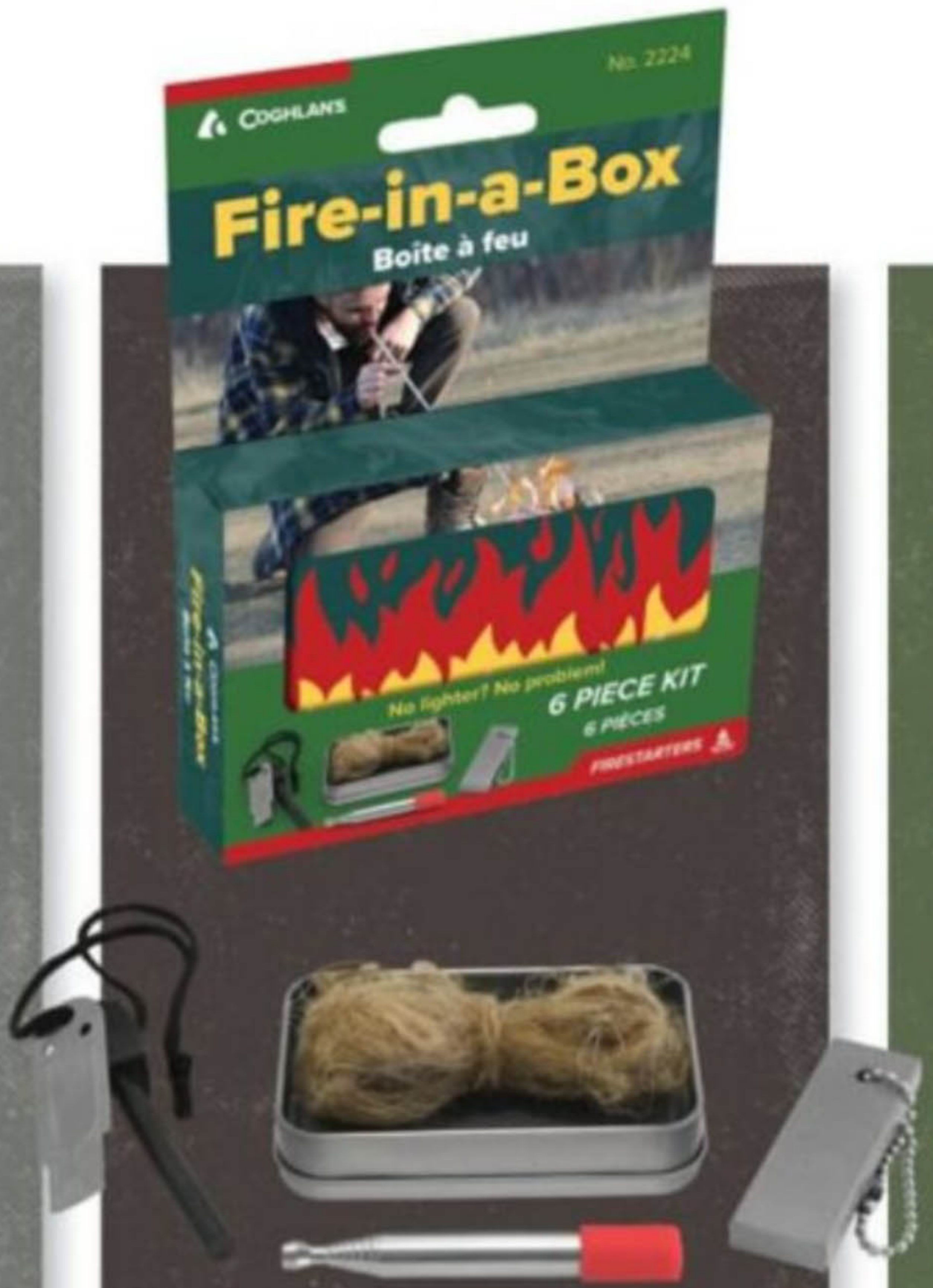
You won't believe all the fire-making gear that is jam-packed within this easy-to-carry containment tin. This literal lifesaving assembly features an extra-large ferro rod, jute fire wick, disposable lighter, hemp fire wick, Kevlar line for bow drill construction, a collapsible fire bellow, stormproof matches, fatwood tinder, cotton tinder, and a Fresnel lens. Add to all this, a metal pencil sharpener for making fine tinder and a coarse wax teacup candle, and what more could you possibly ask for? This kit has all bases securely covered.

**Specifications**

- Durable, compact containment tin
- Useful in all outdoor environments
- Ideal for both urban and rural use
- Fits inside a jacket pocket or gear bag
- Use as a kit or carry pieces individually

**MSRP** $42
**URL** *survivorsgear.com*

Wilderness
KITS
SURVIVORS GEAR



## FIRE-IN-A-BOX

Compact, easy to use and highly effective: That exemplifies Coghlan's Fire-in-a-Box kit. No more fiddling to find your fire-making components when you have them always within arm's reach. The magnesium bar offers intense, high-temperature fire creation with its included scraper, while the mini bellow and jute tinder transform your flame into a roaring fire. Ideal for backpackers, campers, preppers or anyone trekking into the vast and unpredictable outdoors.

**Specifications**

- Useful to start hundreds of fires
- Simple to use tools
- Use as a kit or carry pieces individually
- Waterproof magnesium bar and flint
- Compact tin measures 4.33 by 2.76 inches

**MSRP** $15
**URL** *coghlans.com*

## FIRE LITE FUEL-FREE LIGHTER

Want an easy way to start a fire? Just push a button. That's the ease and simplicity of the Fire Lite Fuel-Free lighter. This compact and durable lighter offers a USB-rechargeable power source that provides up to 100 lights per charge. With its windproof and waterproof properties, you can start a much-needed fire in all conditions and environments. The unit includes a 3-foot tinder cord (with flammable internal core) lanyard and built-in LED 100 lumen light for easy-to-see, nighttime fire creation.

**Specifications**

- Hard plastic outer shell
- Powered by one lithium-ion battery
- Rechargeable and fuel-free
- Waterproof and windproof
- Weighs less than 2 ounces

**MSRP** $28
**URL**
*surviveoutdoorslonger.com*

SOL
Fire Lite™ Fire Starting Kit
Trousse d'allumage de feu Fire Lite™
FIRE / FEU
EXPECT THE UNEXPECTED™
SOL

## FIRE LITE FIRE STARTING KIT

Why settle for one product to achieve fire, when you can have an entire kit? This assortment contains all you need for fire production including a micro sparker, all-weather tinder, tinder cord and a water-resistant bag—because moisture is your absolute worst enemy when you need fire. The compact pack offers a bright-orange exterior for easy location against nature's backdrop, as well as a see-through window for quick access to the gear.

**Specifications**

- Water-resistant dry bag
- Easy-to-carry pouch
- Ideal for bug-out bags and emergency kits
- Easy-to-use components for fast fire-starting
- Kit weighs only 3.5 ounces

**MSRP** $17
**URL** *surviveoutdoorslonger.com*

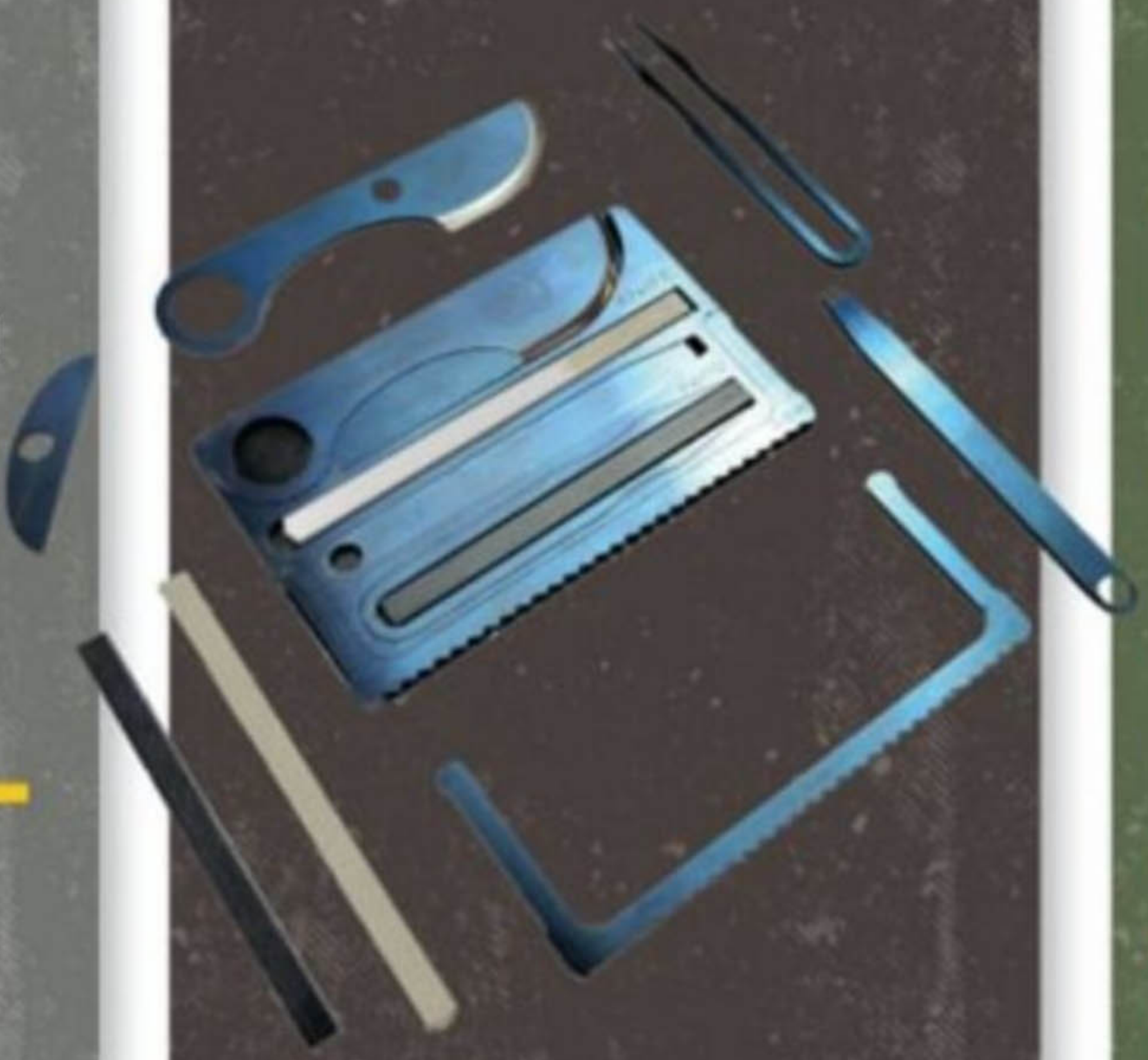
## HOT SHOT CARD

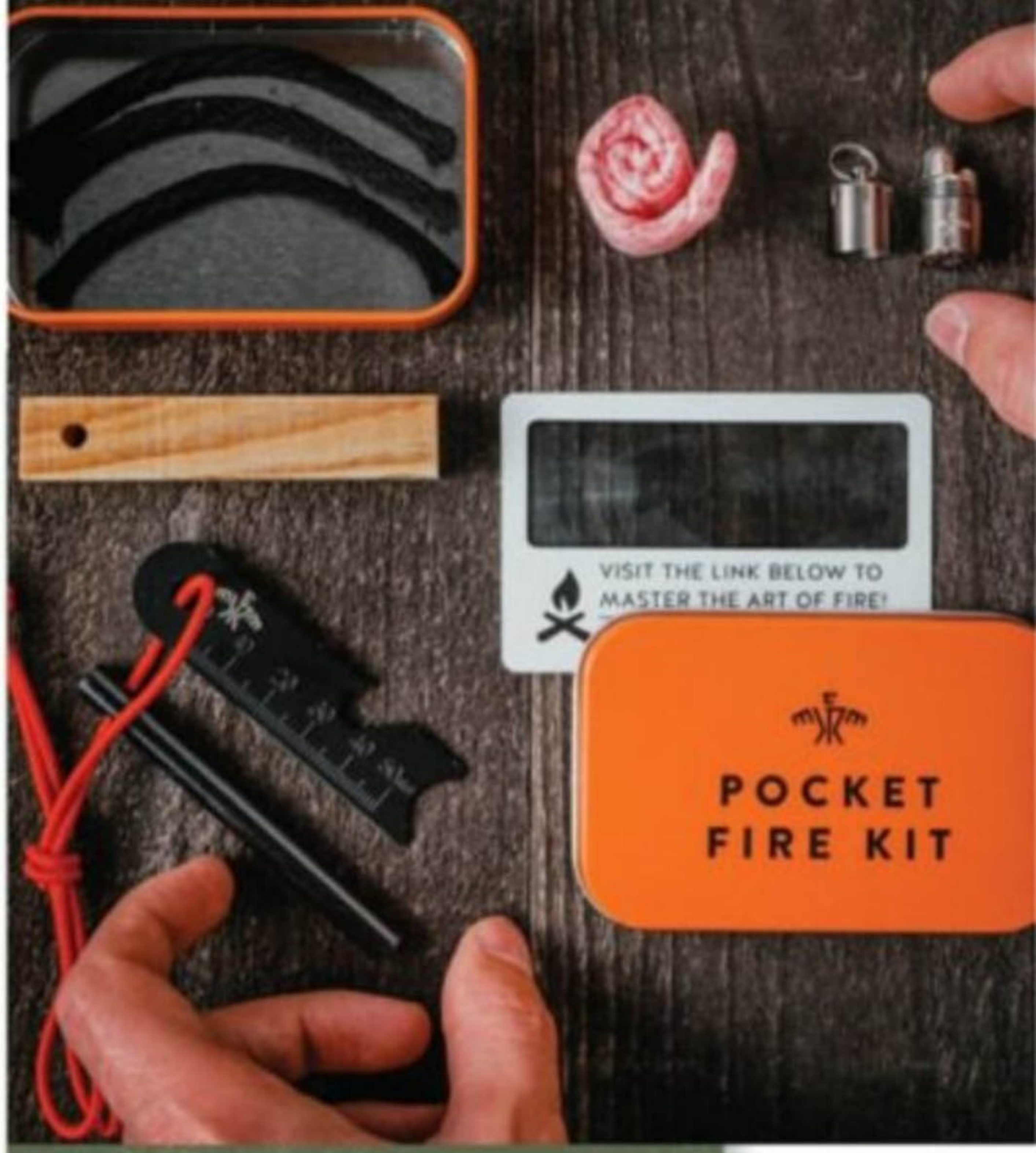
Yes, you packed a bug-out bag. Yes, you have a secondary emergency kit. But neither are any good if you don't have them with you. The Hot Shot card solves this problem by going everywhere you do. Packed onto a credit card-sized backing are essential tools for creating fire and many other survival needs. The Hot Shot card includes a knife, ferro rod and striker, pry tool, tweezers, a mini saw and cordage, all easy to access and reattach when finished. It's easily carried in your pocket, purse, wallet or waist pouch.

**Specifications**

- Credit card-sized kit
- High-carbon, blue spring steel
- Integrated tool retention system
- Extra thick for superb durability
- Includes eight essential fire-starting items

**MSRP** $24
**URL** *grimworkshop.com*





## POCKET FIRE KIT

Good things do come in small packages—and this small package can essentially save your life. This little pocket tin amazingly contains multiple ways to produce fire, all the while being easy to carry, store and use. It features Creek's ThunderCrow mini ferro rod with striker, the ThunderCrow micro lighter, three pieces of cotton char rope, DragonTongue fire tinder, one fatwood stick and a credit card-sized magnifier. All products were hand-picked and packed by Creek himself, so expect high quality and high reliability in the field. You'll never be left in the dark or in the cold again.

**Specifications**

- Assembled by survival instructor Creek Stewart
- Tin doubles as a char cloth-making container
- Eight diverse items for on-the-spot fire-making
- Compact size, only 2.5 by 3.5 inches
- Hand-packed in the USA

**MSRP** $29
**URL** *creekstewart.com*

## STORMPROOF MATCH KIT OVERVIEW

These matches go well above and beyond what ordinary matches can do. Extra-long and strong, these flame producers can light in extreme weather conditions, like rain, sleet, wind and snow. They can be dropped into a puddle of water or coated in mud and they will still perform when it counts. The durable watertight canister holds 25 matches, each coated in protective wax, and the entire unit stores easily when not in use.

### Specifications

- Matches burn for 15 seconds
- Windproof and waterproof
- Holds 25 matches (included)
- Burns when wet or submerged
- Includes three replaceable strikers

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**MSRP** $9
**URL**
*rescue-essentials.com*

SOL
Fire Lite
Fuel Cubes
Cubes de carburant
12 Cubes
12 Cubes
PACK MORE THAN LUCK
WARNING: FLAMMABLE.
HARMFUL IF SWALLOWED. EYE IRRITANT.
AVERTISSEMENT: INFLAMMABLE.
NOCIF EN CAS D'INGESTION. IRRITANT POUR LES YEUX.

## FIRE LITE FUEL CUBES

The SOL Fuel Cubes are one of the most perfect fuels for your camp stove. They provide both light and heat when hiking, camping or trying to survive in nature's vast backyard. The cubes offer an eco-friendly composition with no fossil fuels. They are safe to store anywhere, even with your food cache. Each block is individually wrapped and lights with just a single spark, so no more frustration to get fire during harsh conditions. They even burn when wet. The cubes weigh only 0.5 ounce each and pack easily in any bag or pack—or even your jacket pocket.

### Specifications

- Lights with a single spark
- Burns for 1,300 F for eight minutes
- Compatible with most camp stoves
- Will light and burn even when wet
- Bio-based ethanol fuel

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**MSRP** $9
**URL**
*surviveoutdoorslonger.com*

## THUNDERCROW SURVIVAL FIRE KIT

They say you should have at least five ways to make fire while under survival conditions. Well, Creek covers that and a whole lot more. Contained within a durable dry bag are a plethora of diverse fire-centric items ideal to create a roaring blaze. From a ferrocerium rod to a magnesium bar, to a magnifying solar lens to tinder, char cloth and waxed jute, you have no shortage when the warmth, cooking ability and overall comfort of a fire is needed. Two instruction pocket booklets are included with highly detailed instructions to further aid you in the field.

### Specifications

- Multiple fire-starting items
- Comes packaged in 500D dry bag
- Ideal for both rural and urban survival needs
- Kit assembled in the USA
- Includes two fire-starting guidebooks

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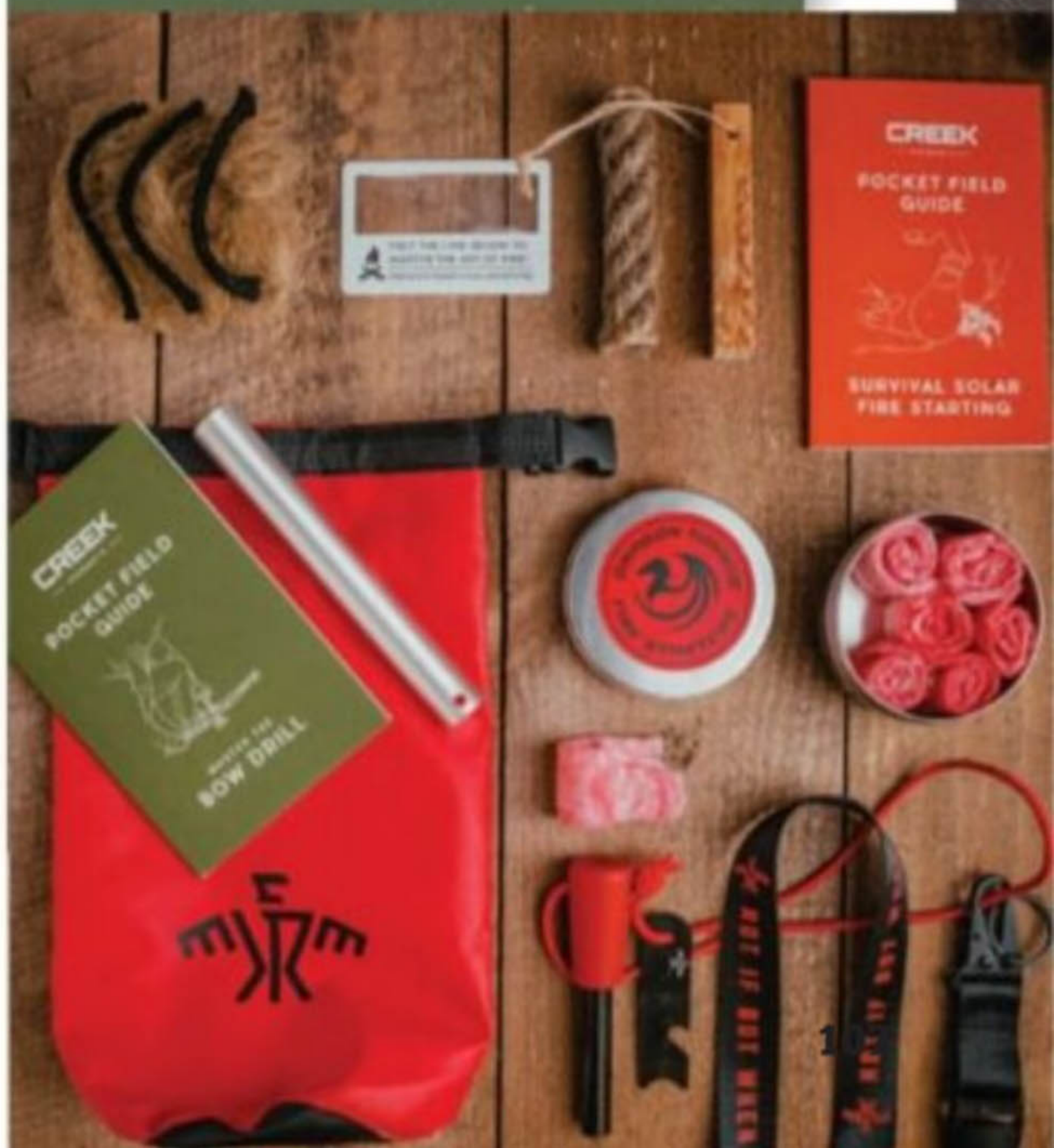
**MSRP** $45
**URL** *creekstewart.com*


CREEK
POCKET FIELD GUIDE
SURVIVAL SOLAR FIRE STARTING
CREEK
POCKET FIELD GUIDE
BOW DRILL

# TUFF POSSUM GEAR

## Great gear made in the USA

BY REUBEN BOLIEU

**STARTING A BUSINESS IS ALWAYS A CHALLENGING TASK—BUT JAYBERRY MILLER HAS MADE IT POSSIBLE THROUGH HARD WORK AND DETERMINATION. HE GREW UP IN THE MISSOURI OZARKS AND LEARNED THE ARTS OF CAMPING, HUNTING, FISHING, HIKING AND TRAPPING FROM A YOUNG AGE, FOLLOWING IN THE FOOTSTEPS OF HIS FATHER.**

überleben
TUFF POSSUM GEAR
UCO

The author used the Skittles Pouch in the Filipino jungle on a multiday camping trip. It was his go-to fire kit pouch, and survived the jungle in style.

In 2012, when he was only 13 years old, Jayberry started working on his first projects with his mother. He used quality fabrics like 500d Cordura nylon and ripstop to create functional and durable products. Three years later, he decided to focus on making trustworthy gear for adventure enthusiasts. In 2017, Jayberry launched Tuff Possum Gear and he has since delivered high-quality products to customers with utmost confidence.

Let's look at a few favorites. All of these products, and many more, can be found at tuffpossumgear.com.

## GENERAL PURPOSE POUCH

× **MSRP** $40

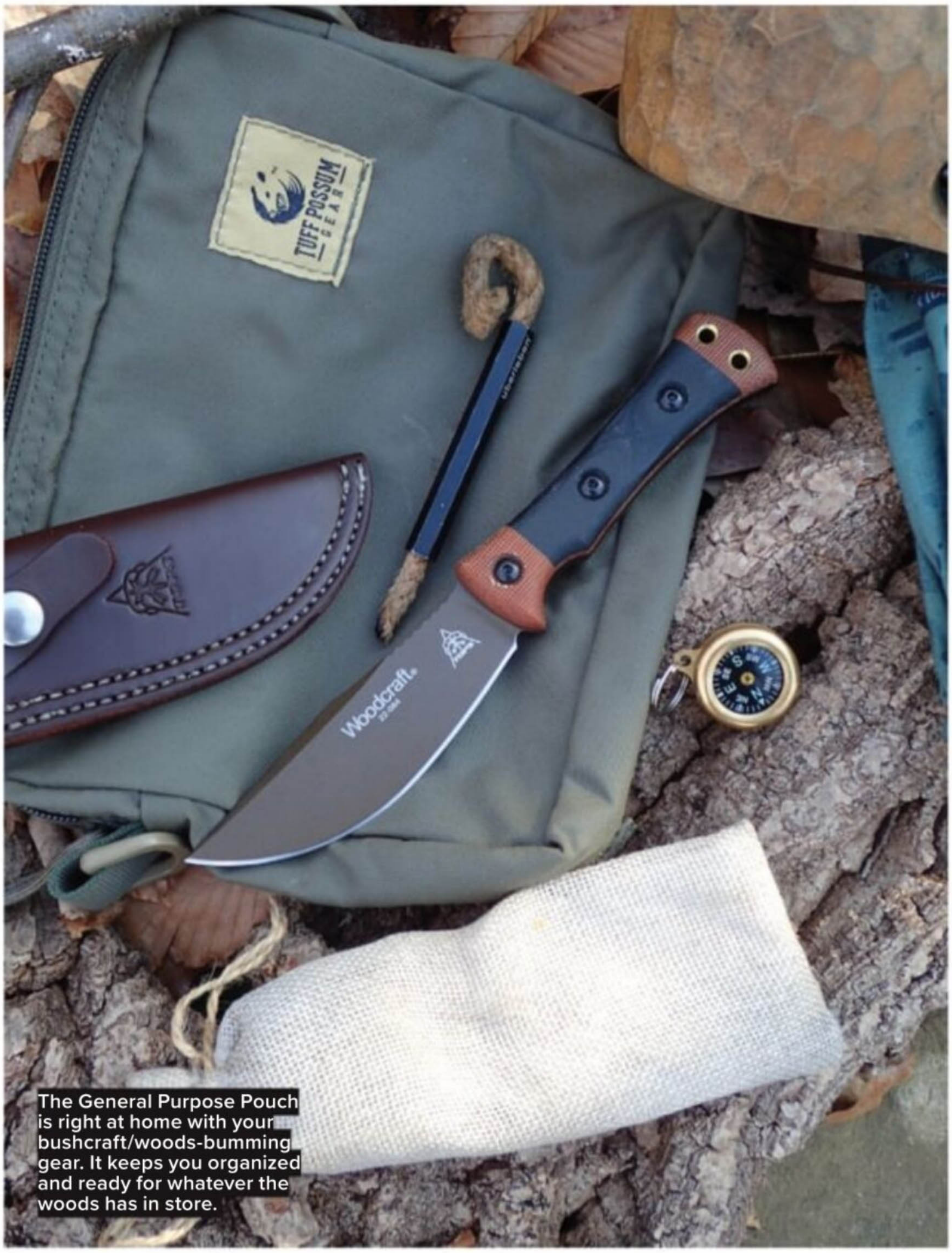
The General Purpose Pouch from TPG is must-have gear for anyone carrying small pieces of equipment. It's a sturdy zippered bag that keeps all your small items organized and easily accessible, saving you time when you need to find something in your bag. It can be used for various purposes, such as carrying your fire kit, repair kit, first-aid supplies, cordage or food. If you're an adventure traveler, you can use it to store your toiletries. The General Purpose Pouch is a reliable and convenient grab-and-go bag that you can always count on.

The GP pouch is made in the USA from high-quality materials. The heavy-duty YKK zipper ensures your belongings remain secure. At the same time, the 500d Cordura nylon (1000d on the Safety Orange) provides the necessary toughness to withstand daily wear and tear. The webbing pull tabs with D-rings allow you to improvise a shoulder strap as needed, while the thoughtful design measures 7 inches tall, 9 inches wide and 2 inches deep to accommodate all your essentials. With a weight of just 3 ounces (except Safety Orange, which weighs 4 ounces), this pouch is both lightweight and practical, making it the perfect choice for anyone on the go. It's available in Kryptek Highlander, Safety Orange, Ranger Green, Coyote Brown and MultiCam.

## BELT POUCH

× **MSRP** $41–$46

As someone who enjoys wilderness travel and everyday carry, I have found that having a small pouch with essential



The General Purpose Pouch is right at home with your bushcraft/woods-bumming gear. It keeps you organized and ready for whatever the woods has in store.

items can be incredibly helpful. Tuff Possum offers a wide range of pouches and bags that are perfect for this purpose. I like to call my pouch a "possibles pouch" because it contains essential items that make me feel comfortable when I am away from my campsite. It is the last thing I take off before going to sleep and the first thing I put on in the morning.

George Washington Sears, also known as Nessmuk, wrote about his possibles pouch in the early 1900s. His version measured 4 inches by 6 inches and weighed 2.5 ounces. It contained everything from hooks and lines to needles and buttons and was designed to be lightweight and easy to carry. Since then, I have looked for pouches that match that weight or less, if possible.

The Tuff Possum Belt Pouch is an excellent option for those looking for a durable and reliable pouch. It measures 5 inches wide by 4 inches tall and 3 inches deep and is made from durable, 1000d Cordura nylon. The pouch also features a heavy-duty No. 8 YKK zipper with 550 cord zipper pulls. It's designed to be overbuilt for a pouch that solely rests on your belt, ensuring that it will give you years of service.

TUFF POSSUM
GEAR
Smith's

THE BELT POUCH IS PERFECT WHEN YOU WANT JUST A FEW ESSENTIALS WITHIN EASY REACH!

On the authors' camp coffee table rests the Tuff Possum Belt Pouch, a dependable piece of gear that is always at his side.

While I don't wear possibles pouches on my belt (they can be uncomfortable when nature calls), I use a carabiner that attaches to two belt loops on my left hip side for easy on and off. In a hammock, I can attach the pouch to my ridgeline above my head when rain is imminent. As someone who's not a fan of zippers in the outdoors, this pouch has made me a believer. It's available in Ranger Green, Coyote Brown, MultiCam, Black and Wolf Gray.

## SKITTLES POUCH

**MSRP** $20

This is a clean, small, zippered pouch that is the perfect organizational solution for carrying your everyday essentials. The pouch is backed with Velcro and can easily stick to the inside of any loop-lined bag or pack, such as the Tuff Possum Gear Shackleton EDC Satchel. You can store your phone charger cord, earbuds, spare batteries,

TUFF POSSUM GEAR

You might be surprised at just how much gear you can fit into the Skittles Pouch.

boo-boo kit, entry kit, or any other items you choose. It's the perfect size for all of your everyday carry items.

During my camping trip in the Philippines, I used this pouch as my jungle fire kit for a few stormy days. Carrying the right amount of fire equipment is always challenging, especially when visiting a rainforest or jungle during the rainy season. This pouch was easy to spot in low-level light and easy to find in my bag. However, I wish it had another carry option like belt loops or a sling for convenience.

Measuring 4 inches tall by 6 inches wide, this pouch is made with high-quality 500d Cordura Nylon fabric. It comes equipped with a durable YKK zipper to keep your items secure. Additionally, the 2-inch Velcro strip across the back allows for easy attachment to other gear. It provides a convenient way to keep everything in its place. At only 0.7 ounces, this pouch is lightweight and compact, making it a great addition to any EDC setup. Plus, it's 100% made in the USA, so you can feel good about supporting domestic manufacturing. Whether you're looking to organize your small tools, tech accessories, fire kit, or even your Skittles candy, the Skittles Pouch has you covered. Get yours in Blood Red, MultiCam Arid, Safety Orange, Ranger Green, Coyote Brown, MultiCam or MultiCam Black.

### MULTIPURPOSE SIT PAD

**MSRP** $39

The Multipurpose Sit Pad is, hands down, the best gear addition to my camping kit in years. It may seem like a simple piece of equipment, but trust me, this sit pad is a game changer. Not only does it offer comfort and insulation during prolonged sitting, but its versatile features elevate it to a must-have item. With a size of 17.5 inches x 11 inches and dual-sided Cordura construction, along with a removable ½-inch-thick closed-cell foam pad and grosgrain loops along the perimeter, this sit pad is super multi-use and reliable.

When setting up camp, it's vital to prioritize fire prep. A valuable tool is a sit pad that doubles as a workstation for shaving fatwood. The pad is also great for stoking coals and collecting tinder, which can be stored inside the pad's Velcro closure to keep it dry.

But the sit pad isn't just for fire duties. It can also be used as insulation to sit on during mealtime, especially on cold and bumpy surfaces like a rock table. Once dinner is done, the pad can even be used to store a small steel grill inside.

When moving on from camp, the pad offers a convenient storage pouch for straight items like knives, chopsticks and spatulas. It can also be used as a floor mat to keep shoes clean and dry before entering your bivy.

As for sleeping arrangements, the sit pad works excellently as an extra layer of insulation and comfort when combined with other larger pads. It also works as a hammock pad for your feet or head area. Under the hammock, it can be used to keep items like shoes, a camera and possibles pouch close by and safe from moisture.

Despite all its uses, the sit pad is easy to clean. It can be showered on by rain or embers from a fire without any issue. The orange side can be beneficial during tick season, as it makes them more visible than on the dark, Ranger Green side. It can also be used as a signaling tool or trail marker if rigged up high. Overall, the sit pad is a versatile and essential tool for any camping trip.

### GP POUCH SHOULDER STRAP KIT

× **MSRP** $6

Tuff Possum Gear offers a GP Pouch Shoulder Strap Kit to turn your General Purpose Pouch into a compact haversack or satchel. The kit includes a 1-inch-wide webbing shoulder strap, 72 inches in length, made of solution-dyed nylon webbing, and two ITW Nexus polymer Triglides. The General Purpose Pouch is not included in the kit. The strap is available in Ranger Green and Coyote Brown colors, and Tuff Possum Gear recommends the Coyote Brown color for the Safety Orange General Purpose Pouch, as it has Coyote brown trim already. The kit comes with installation routing photos, ensuring correct installation.

TUFF POSSUM GEAR

FLIP THE SIT PAD OVER TO EXPOSE THE BLAZE ORANGE TO CALL ATTENTION TO YOUR LOCATION!

The Tuff Possum Gear Multipurpose Sit Pad can also function as a workstation, allowing you to keep track of your tinder shavings.

Backwoods
Survival Guide
PRACTICAL ADVICE FOR THE SIMPLE LIFE

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